



Full wwPDB EM Validation Report ⓘ

Apr 23, 2024 – 12:59 am BST

PDB ID : 6ZQC
EMDB ID : EMD-11359
Title : Cryo-EM structure of the 90S pre-ribosome from *Saccharomyces cerevisiae*, state Pre-A1
Authors : Cheng, J.; Lau, B.; Venuta, G.L.; Berninghausen, O.; Hurt, E.; Beckmann, R.
Deposited on : 2020-07-09
Resolution : 3.80 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

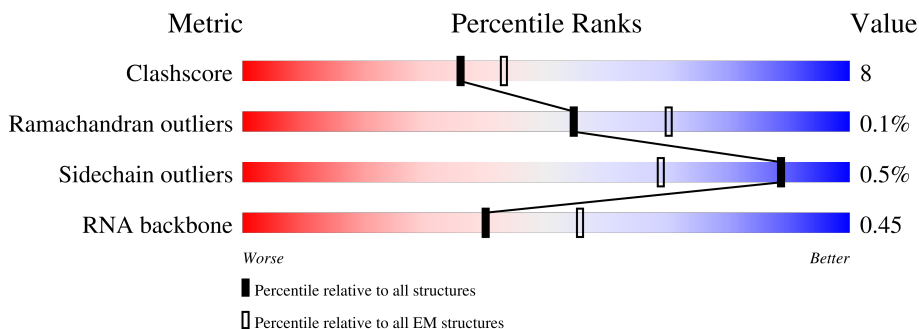
EMDB validation analysis : 0.0.1.dev92
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.80 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.




























Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	CA	327	
1	CB	327	
2	DA	255	
3	JA	1056	
3	JB	1056	
4	UA	923	
5	UB	810	
















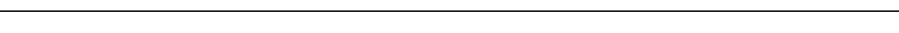
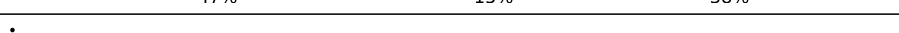
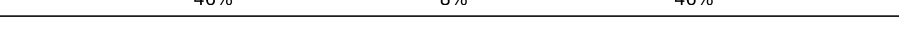







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Mol	Chain	Length	Quality of chain
6	UC	610	 18% 79%
7	UD	776	 65% 22% 13%
8	UE	643	 57% 16% 26%
9	UF	440	 54% 12% 33%
10	UG	554	 81% 14% . .
11	UH	713	 50% 10% . 38%
12	UI	575	 14% . 82%
13	UJ	1769	 48% 15% 37%
14	UK	250	 82% 15% .
15	UL	943	 69% 20% 11%
16	UM	817	 71% 22% 7%
17	UN	899	 13% . 84%
18	UO	513	 74% 22% .
19	UP	214	 20% 8% 72%
20	UQ	896	 72% 21% 7%
21	UR	594	 67% 14% 19%
22	US	552	 71% 19% 11%
23	UT	2493	 . 68% 23% 10%
24	UU	939	 75% 15% 10%
25	UV	1237	 66% 21% 13%
26	UX	189	 75% 17% 8%
27	UZ	274	 70% 20% 10%
28	CD	504	 64% 11% 25%
29	CE	511	 70% 15% 15%
30	CF	126	 89% 9% .










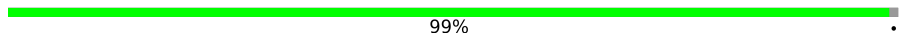
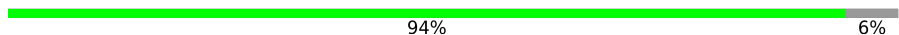
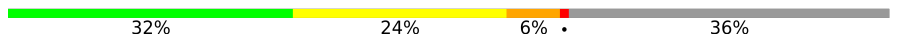
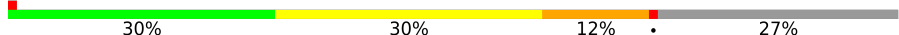
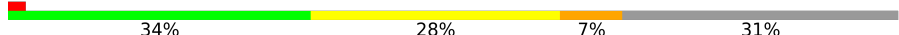
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Mol	Chain	Length	Quality of chain
30	CG	126	 74% 23% ..
31	CH	573	 67% 14% 19%
32	CI	183	 80% 19% ..
33	CJ	290	 73% 23% ..
34	CK	593	 30% 5% 65%
35	CL	1183	 52% 13% 34%
36	CM	367	 81% 17% .
37	CN	297	 60% 18% 22%
38	JC	707	 33% 17% 50%
39	JF	252	 71% 14% 14%
39	JG	252	 67% 23% 9%
40	JH	483	 7% 53% 46%
41	JI	1729	 12% 15% 85%
42	JJ	274	 51% 15% 34%
43	JK	534	 5% . 92%
44	JM	217	 47% 15% 38%
45	JN	346	 46% 8% 46%
46	JO	316	 63% 9% 27%
47	JP	489	 75% 19% 6%
48	JQ	206	 27% . 69%
49	DE	261	 69% 25% 6%
50	DF	225	 81% 14% 5%
51	DG	236	 66% 25% . 8%
52	DH	190	 71% 26% ..
53	DI	200	 65% 24% 12%

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Mol	Chain	Length	Quality of chain
54	DJ	197	 82% 12% 6%
55	DL	156	 61% 28% 10%
56	DN	151	 86% 13%
57	DO	137	 64% 23% 12%
58	DQ	143	 75% 12% 13%
59	DS	146	 70% 29%
60	DW	130	 88% 12%
61	DX	145	 59% 12% 29%
62	DY	135	 76% 23%
63	Db	82	 99%
64	Dc	67	 94% 6%
65	D2	700	 32% 24% 6% 36%
66	D3	1808	 30% 30% 12% 27%
67	D4	333	 34% 28% 7% 31%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
70	GTP	CL	2001	-	-	X	-

2 Entry composition i

There are 70 unique types of molecules in this entry. The entry contains 234757 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called rRNA 2'-O-methyltransferase fibrillarlin.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	CA	242	Total	C	N	O	S	0	0
			1881	1193	338	340	10		
1	CB	228	Total	C	N	O	S	0	0
			1782	1131	320	321	10		

- Molecule 2 is a protein called 40S ribosomal protein S1-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	DA	240	Total	C	N	O	S	0	0
			1912	1209	354	345	4		

- Molecule 3 is a protein called RNA cytidine acetyltransferase.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	JA	812	Total	C	N	O	S	0	0
			5916	3745	1044	1102	25		
3	JB	835	Total	C	N	O		0	0
			4132	2462	835	835			

- Molecule 4 is a protein called Periodic tryptophan protein 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	UA	834	Total	C	N	O	S	0	0
			6635	4223	1140	1253	19		

- Molecule 5 is a protein called Nucleolar complex protein 14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	UB	507	Total	C	N	O	S	0	0
			3734	2367	663	695	9		

- Molecule 6 is a protein called Something about silencing protein 10.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
6	UC	128	1026	633	204	189	0	0

- Molecule 7 is a protein called U3 small nucleolar RNA-associated protein 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	UD	675	5361	3395	929	1015	22	0	0

- Molecule 8 is a protein called U3 small nucleolar RNA-associated protein 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	UE	475	3772	2400	649	710	13	0	0

- Molecule 9 is a protein called U3 small nucleolar RNA-associated protein 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	UF	293	2487	1605	435	434	13	0	0

- Molecule 10 is a protein called U3 small nucleolar RNA-associated protein 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	UG	533	4218	2646	758	802	12	0	0

- Molecule 11 is a protein called U3 small nucleolar RNA-associated protein 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	UH	442	2701	1680	494	524	3	0	0

- Molecule 12 is a protein called U3 small nucleolar RNA-associated protein 9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	UI	104	860	556	152	150	2	0	0

- Molecule 13 is a protein called U3 small nucleolar RNA-associated protein 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	UJ	1116	8961	5802	1468	1666	25	0	0

- Molecule 14 is a protein called U3 small nucleolar RNA-associated protein 11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	UK	242	2021	1254	389	371	7	0	0

- Molecule 15 is a protein called U3 small nucleolar RNA-associated protein 12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	UL	842	6726	4303	1129	1267	27	0	0

- Molecule 16 is a protein called U3 small nucleolar RNA-associated protein 13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	UM	762	5969	3785	1007	1149	28	0	0

- Molecule 17 is a protein called U3 small nucleolar RNA-associated protein 14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
17	UN	147	1227	765	233	227	2	0	0

- Molecule 18 is a protein called U3 small nucleolar RNA-associated protein 15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	UO	493	3911	2462	702	735	12	0	0

- Molecule 19 is a protein called Bud site selection protein 21.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
19	UP	60	495	310	101	84	0	0

- Molecule 20 is a protein called NET1-associated nuclear protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
20	UQ	832	6662	4236	1124	1283	19	0	0

- Molecule 21 is a protein called U3 small nucleolar RNA-associated protein 18.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
21	UR	482	3799	2405	669	715	10	0	0

- Molecule 22 is a protein called Nucleolar complex protein 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	US	494	3622	2326	617	667	12	0	0

- Molecule 23 is a protein called U3 small nucleolar RNA-associated protein 20.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
23	UT	2255	17290	11076	2927	3235	52	0	0

- Molecule 24 is a protein called U3 small nucleolar RNA-associated protein 21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	UU	848	6678	4241	1149	1267	21	0	0

- Molecule 25 is a protein called U3 small nucleolar RNA-associated protein 22.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	UV	1081	8736	5681	1440	1591	24	0	0

- Molecule 26 is a protein called rRNA-processing protein FCF1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
26	UX	174	1395	890	255	240	10	0	0

- Molecule 27 is a protein called Ribosome biogenesis protein UTP30.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
27	UZ	247	2006	1284	356	358	8	0	0

- Molecule 28 is a protein called Nucleolar protein 56.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
28	CD	380	2994	1898	513	574	9	0	0

- Molecule 29 is a protein called Nucleolar protein 58.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
29	CE	435	3325	2093	571	653	8	0	0

- Molecule 30 is a protein called 13 kDa ribonucleoprotein-associated protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
30	CF	123	931	594	160	173	4	0	0
30	CG	123	928	591	160	173	4	0	0

- Molecule 31 is a protein called Ribosomal RNA-processing protein 9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
31	CH	465	3725	2365	653	697	10	0	0

- Molecule 32 is a protein called U3 small nucleolar ribonucleoprotein protein IMP3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
32	CI	182	1530	967	287	269	7	0	0

- Molecule 33 is a protein called U3 small nucleolar ribonucleoprotein protein IMP4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
33	CJ	282	2296	1441	430	418	7	0	0

- Molecule 34 is a protein called U3 small nucleolar RNA-associated protein MPP10.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	CK	207	Total	C	N	O	S	0	0
			1667	1034	297	332	4		

- Molecule 35 is a protein called Ribosome biogenesis protein BMS1.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	CL	781	Total	C	N	O	S	0	0
			6332	4063	1122	1117	30		

- Molecule 36 is a protein called RNA 3'-terminal phosphate cyclase-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	CM	360	Total	C	N	O	S	0	0
			2781	1781	473	516	11		

- Molecule 37 is a protein called Ribosomal RNA-processing protein 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	CN	232	Total	C	N	O	S	0	0
			1893	1213	322	351	7		

- Molecule 38 is a protein called Ribosome biogenesis protein ENP2.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	JC	354	Total	C	N	O	S	0	0
			2845	1795	489	552	9		

- Molecule 39 is a protein called Ribosomal RNA small subunit methyltransferase NEP1.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	JF	216	Total	C	N	O	S	0	0
			1701	1079	296	315	11		
39	JG	230	Total	C	N	O	S	0	0
			1799	1142	313	333	11		

- Molecule 40 is a protein called Essential nuclear protein 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
40	JH	261	Total	C	N	O	0	0
			1295	773	261	261		

- Molecule 41 is a protein called rRNA biogenesis protein RRP5.

Mol	Chain	Residues	Atoms				AltConf	Trace
41	JI	265	Total	C	N	O	0	0
			1314	784	265	265		

- Molecule 42 is a protein called Pre-rRNA-processing protein PNO1.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	JJ	182	Total	C	N	O	S	0	0
			1442	923	259	256	4		

- Molecule 43 is a protein called Protein BFR2.

Mol	Chain	Residues	Atoms				AltConf	Trace
43	JK	42	Total	C	N	O	0	0
			334	213	54	67		

- Molecule 44 is a protein called rRNA-processing protein FCF2.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	JM	135	Total	C	N	O	S	0	0
			1137	721	211	201	4		

- Molecule 45 is a protein called Protein FAF1.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	JN	186	Total	C	N	O	S	0	0
			1428	879	287	259	3		

- Molecule 46 is a protein called KRR1 small subunit processome component.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	JO	230	Total	C	N	O	S	0	0
			1876	1203	330	332	11		

- Molecule 47 is a protein called Protein SOF1.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	JP	461	Total	C	N	O	S	0	0
			3765	2354	686	709	16		

- Molecule 48 is a protein called Regulator of rDNA transcription protein 14.

Mol	Chain	Residues	Atoms				AltConf	Trace
48	JQ	63	Total	C	N	O	0	0
			381	234	69	78		

- Molecule 49 is a protein called 40S ribosomal protein S4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	DE	245	Total	C	N	O	S	0	0
			1944	1245	360	336	3		

- Molecule 50 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	DF	213	Total	C	N	O	S	0	0
			1669	1045	307	314	3		

- Molecule 51 is a protein called 40S ribosomal protein S6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	DG	218	Total	C	N	O	S	0	0
			1755	1102	337	313	3		

- Molecule 52 is a protein called 40S ribosomal protein S7-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
52	DH	184	Total	C	N	O	0	0
			1481	951	265	265		

- Molecule 53 is a protein called 40S ribosomal protein S8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	DI	177	Total	C	N	O	S	0	0
			1399	869	279	249	2		

- Molecule 54 is a protein called 40S ribosomal protein S9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	DJ	185	Total	C	N	O	S	0	0
			1494	943	289	261	1		

- Molecule 55 is a protein called 40S ribosomal protein S11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	DL	140	Total	C	N	O	S	0	0
			1129	724	215	187	3		

- Molecule 56 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	DN	150	Total	C	N	O	S	0	0
			1192	759	224	207	2		

- Molecule 57 is a protein called 40S ribosomal protein S14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	DO	120	Total	C	N	O	S	0	0
			881	544	167	167	3		

- Molecule 58 is a protein called 40S ribosomal protein S16-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
58	DQ	125	Total	C	N	O	0	0
			973	625	174	174		

- Molecule 59 is a protein called 40S ribosomal protein S18-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
59	DS	104	Total	C	N	O	0	0
			516	308	104	104		

- Molecule 60 is a protein called 40S ribosomal protein S22-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	DW	129	Total	C	N	O	S	0	0
			1021	650	188	180	3		

- Molecule 61 is a protein called 40S ribosomal protein S23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	DX	103	Total	C	N	O	S	0	0
			786	503	144	137	2		

- Molecule 62 is a protein called 40S ribosomal protein S24-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
62	DY	134	Total	C	N	O	0	0
			1073	676	208	189		

- Molecule 63 is a protein called 40S ribosomal protein S27-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	Db	81	Total	C	N	O	S	0	0
			610	382	110	113	5		

- Molecule 64 is a protein called 40S ribosomal protein S28-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	Dc	63	Total	C	N	O	S	0	0
			497	306	99	91	1		

- Molecule 65 is a RNA chain called 5ETS RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	D2	446	Total	C	N	O	P	0	0
			9508	4250	1682	3130	446		

- Molecule 66 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	D3	1327	Total	C	N	O	P	0	0
			28287	12644	5022	9294	1327		

- Molecule 67 is a RNA chain called U3 snoRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	D4	230	Total	C	N	O	P	0	0
			4872	2181	844	1617	230		

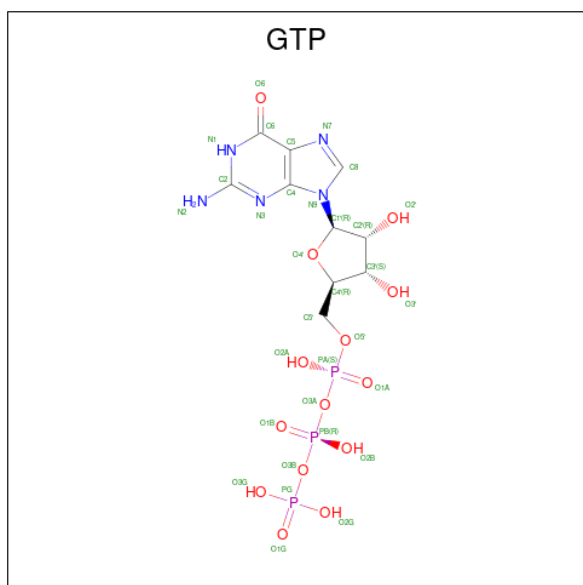
- Molecule 68 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
68	UX	1	Total	Zn	0
			1	1	
68	Db	1	Total	Zn	0
			1	1	

- Molecule 69 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	AltConf
69	UX	1	Total Mg 1 1	0
69	CL	1	Total Mg 1 1	0

- Molecule 70 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).

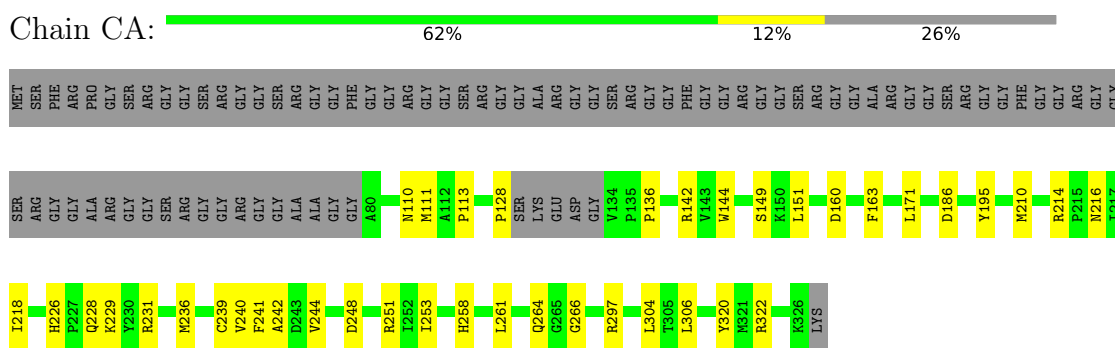


Mol	Chain	Residues	Atoms					AltConf
70	CL	1	Total	C	N	O	P	0
			32	10	5	14	3	

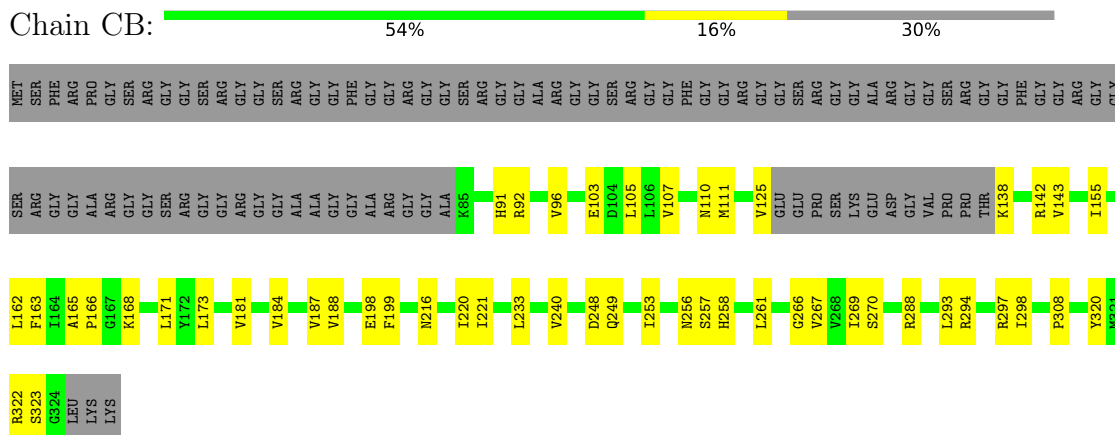
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

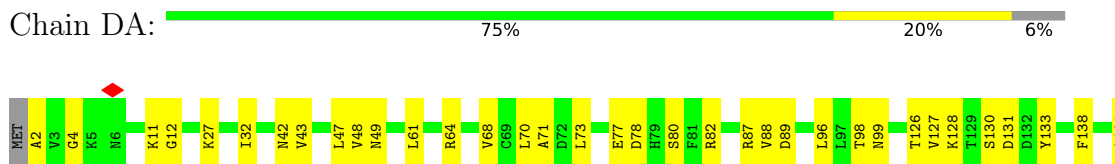
- Molecule 1: rRNA 2'-O-methyltransferase fibrillar



- Molecule 1: rRNA 2'-O-methyltransferase fibrillar

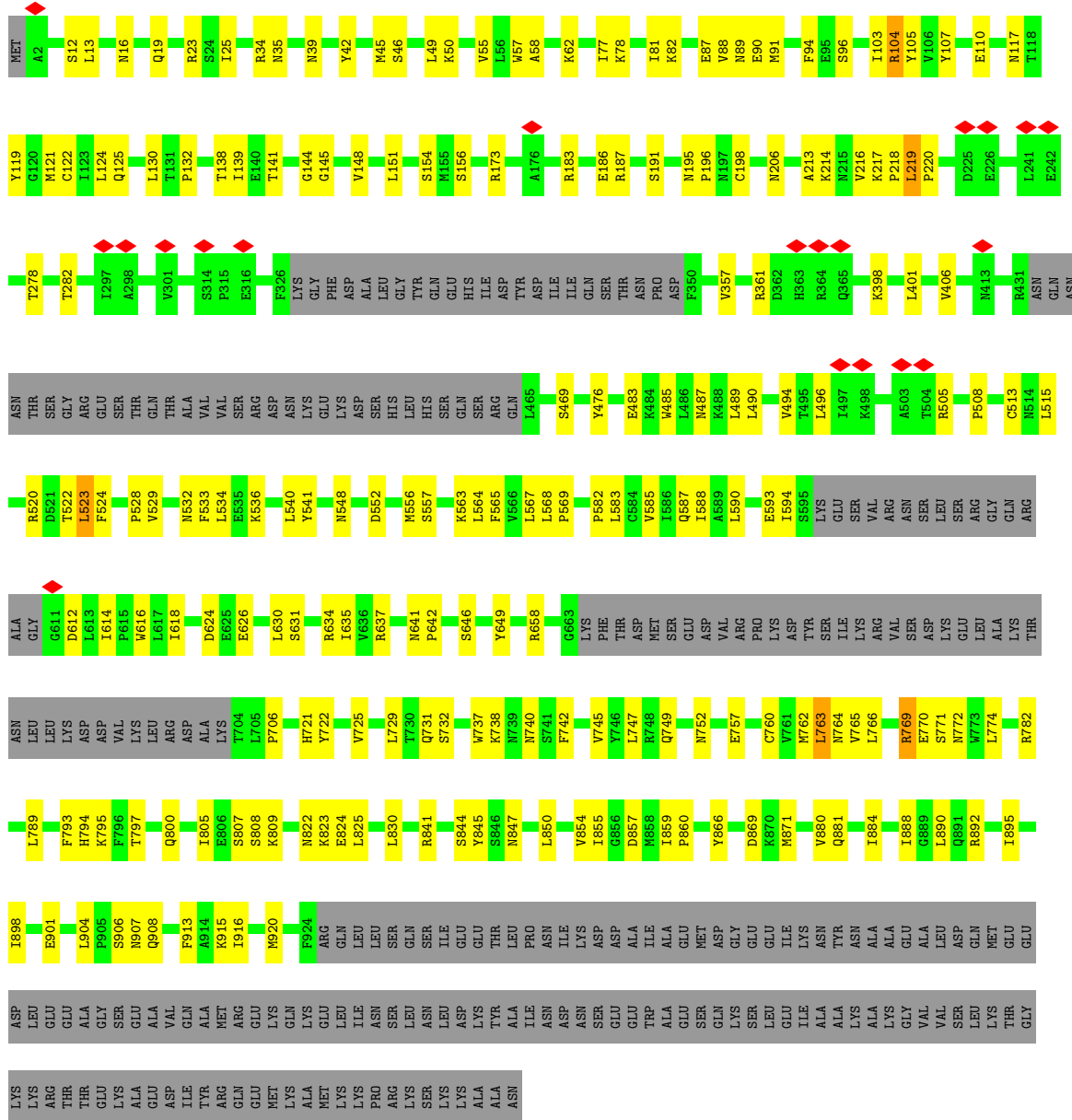


- Molecule 2: 40S ribosomal protein S1-A

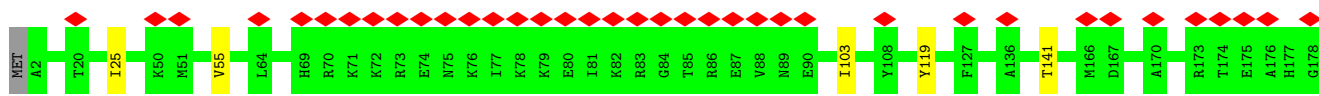
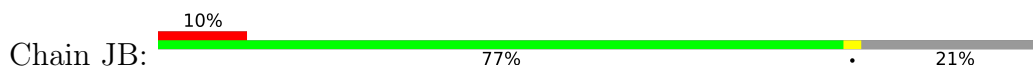


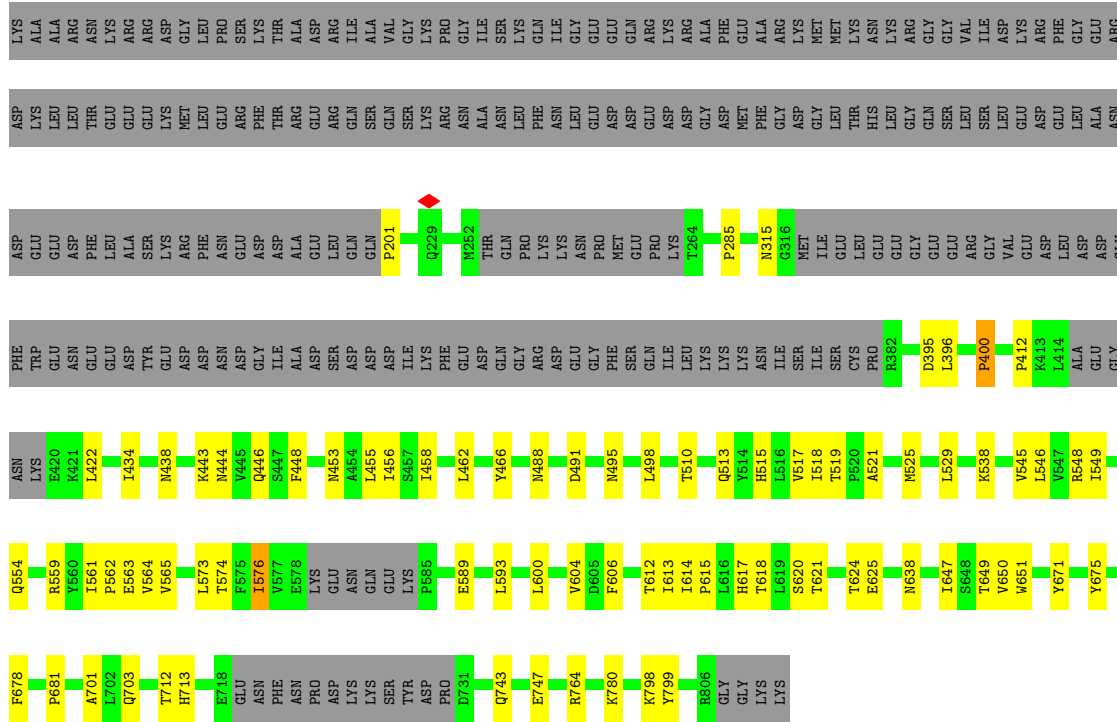


● Molecule 3: RNA cytidine acetyltransferase

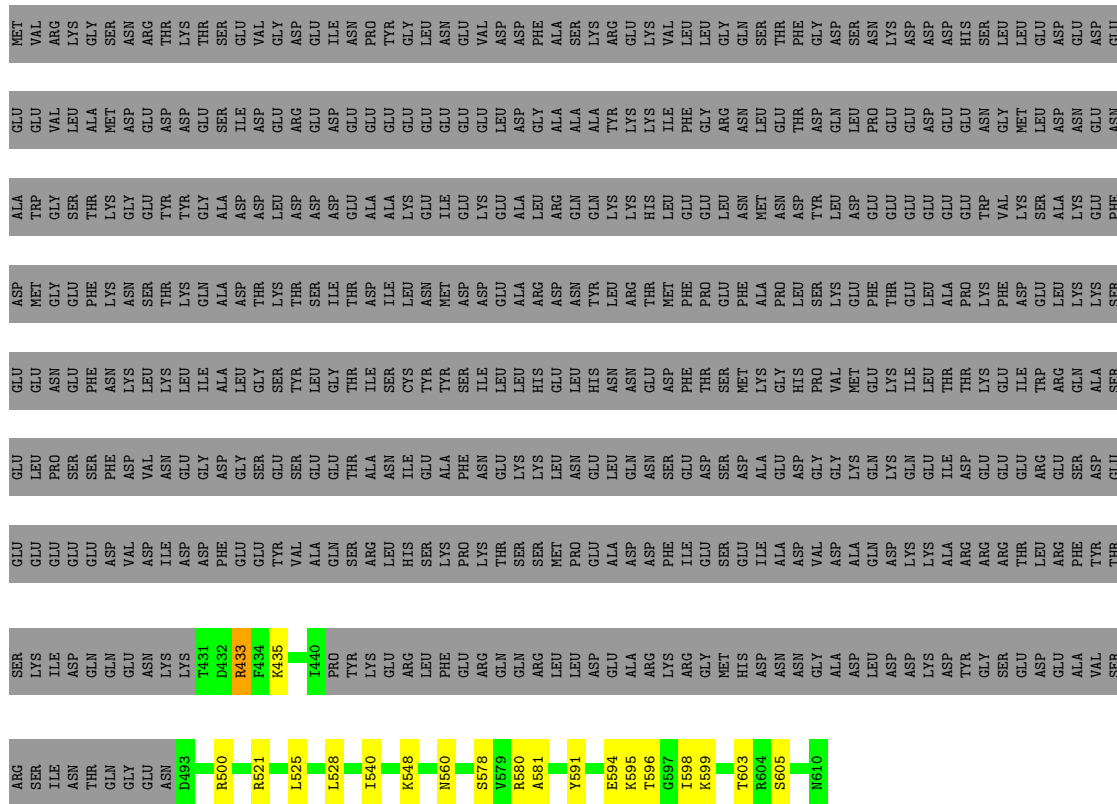


● Molecule 3: RNA cytidine acetyltransferase



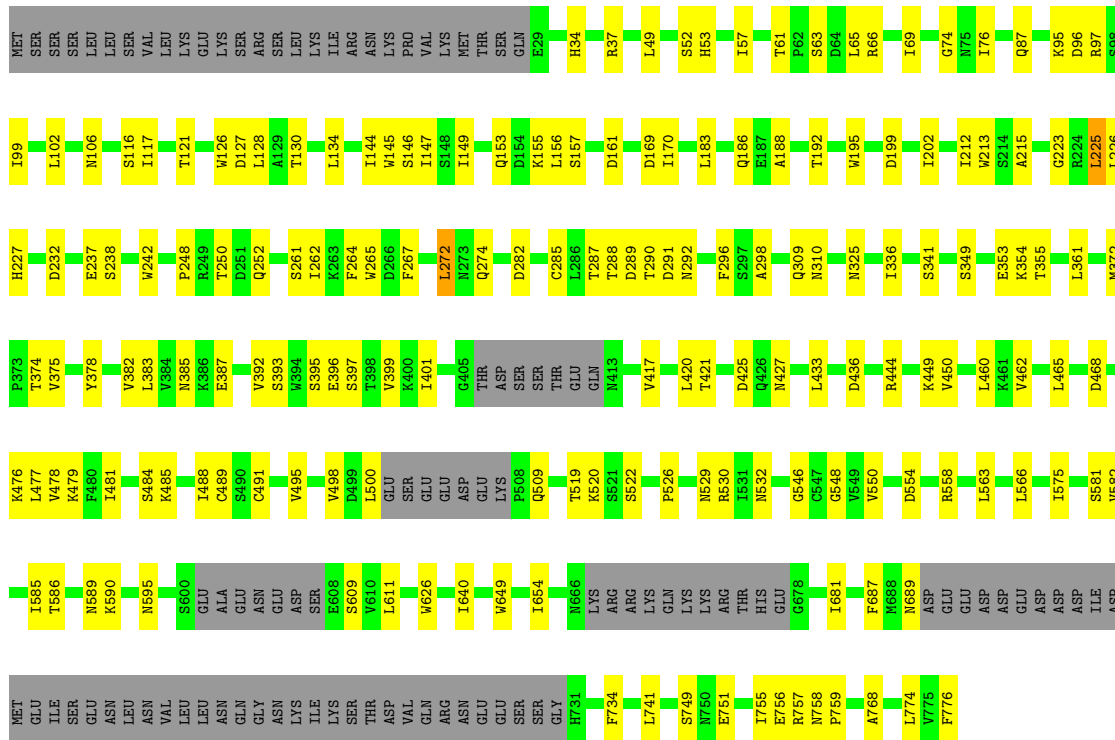


- Molecule 6: Something about silencing protein 10



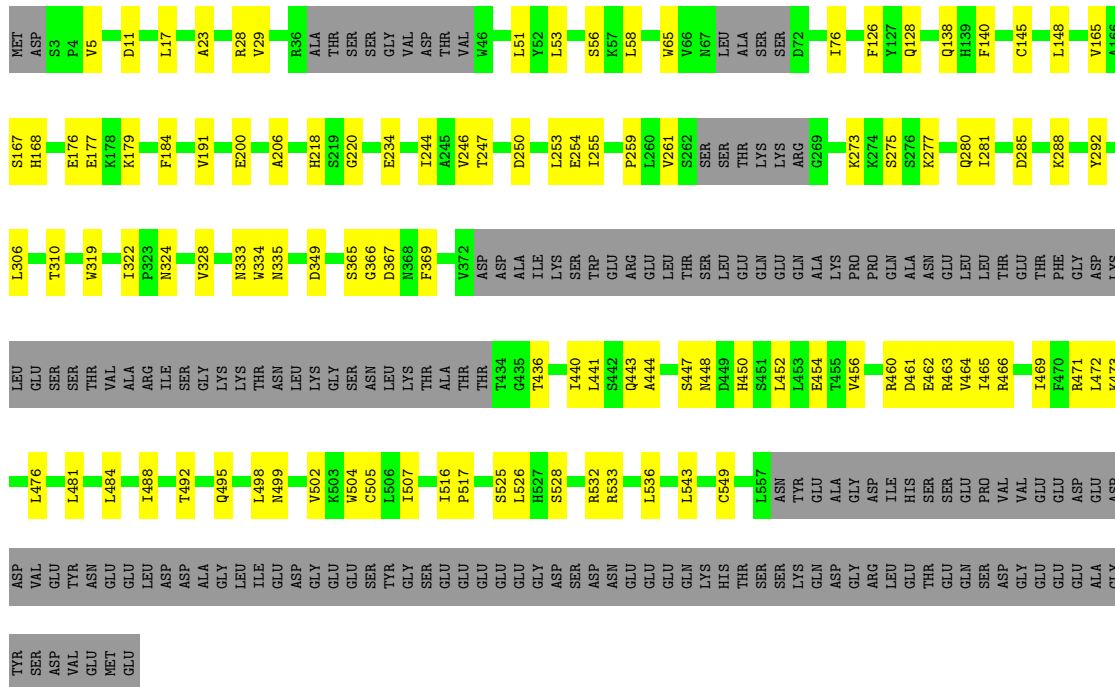
- Molecule 7: U3 small nucleolar RNA-associated protein 4

Chain UD:  65% 22% 13%

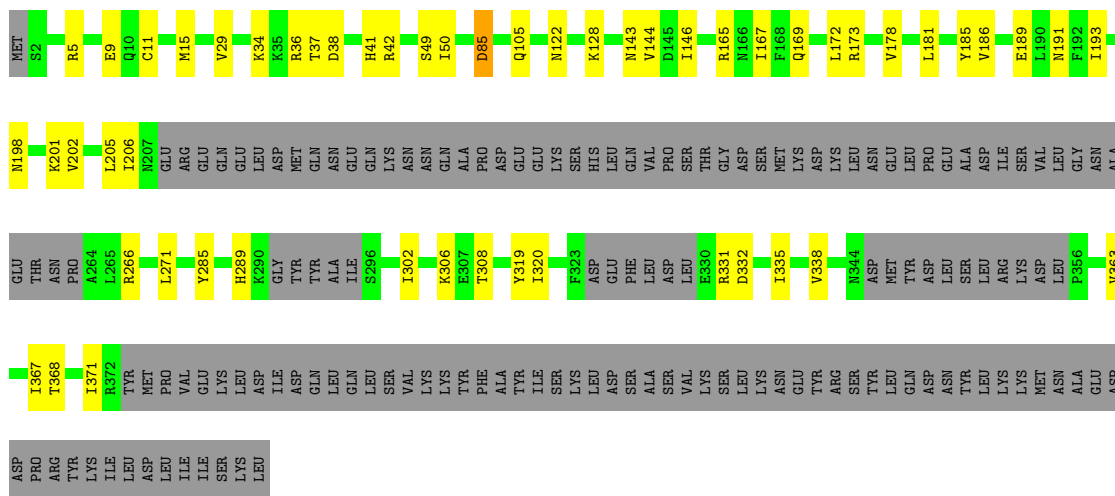


• Molecule 8: U3 small nucleolar RNA-associated protein 5

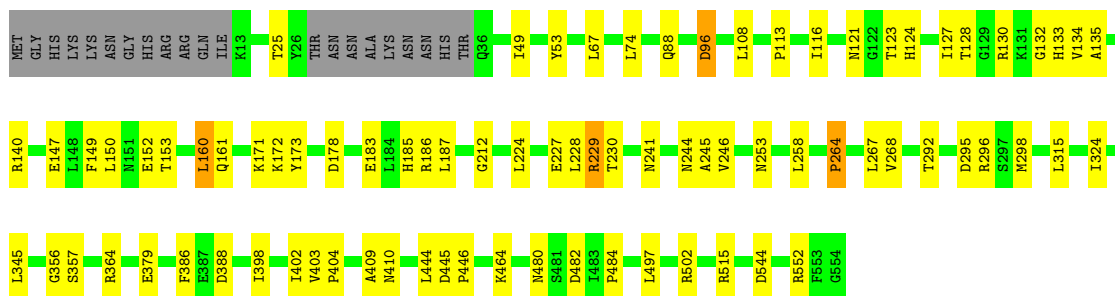
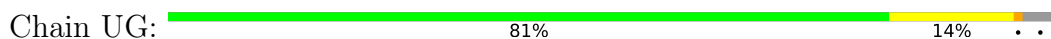
Chain UE:  57% 16% 26%



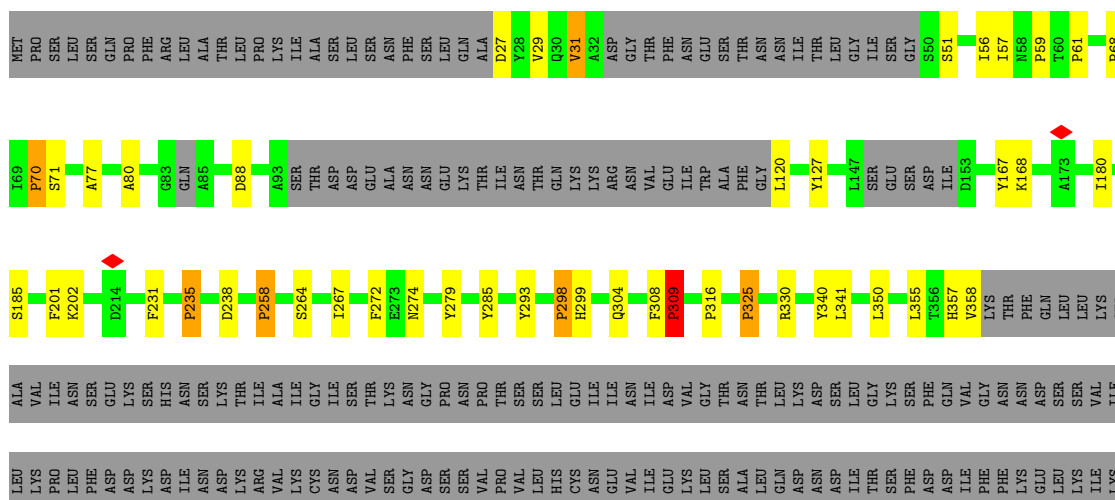
• Molecule 9: U3 small nucleolar RNA-associated protein 6




- Molecule 10: U3 small nucleolar RNA-associated protein 7



- Molecule 11: U3 small nucleolar RNA-associated protein 8



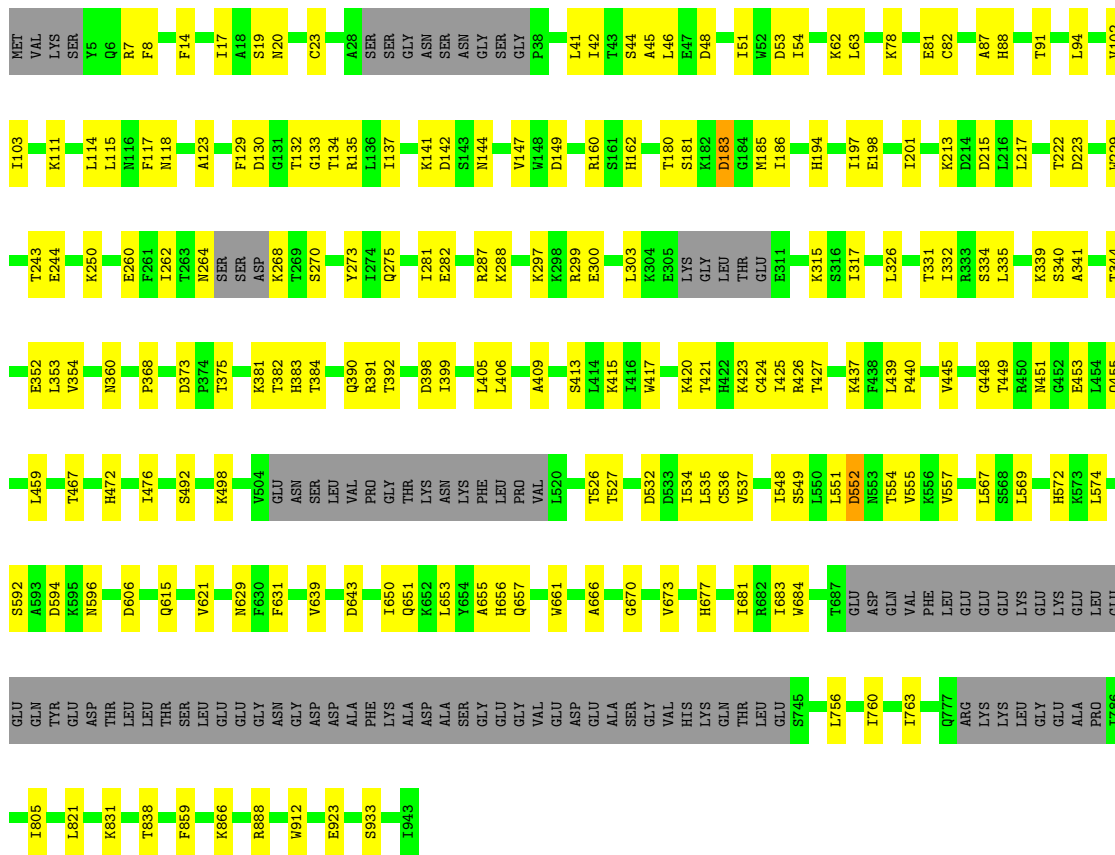
• Molecule 14: U3 small nucleolar RNA-associated protein 11

Chain UK:  82% 15%



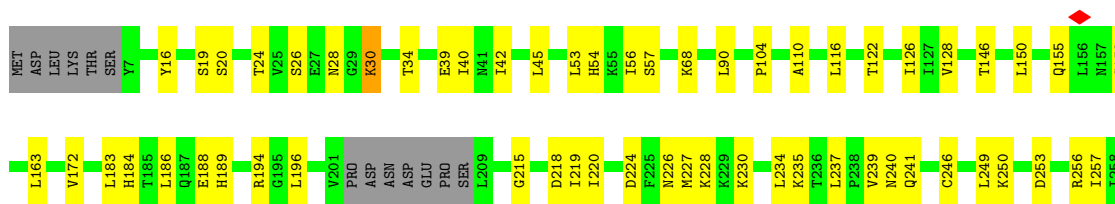
• Molecule 15: U3 small nucleolar RNA-associated protein 12

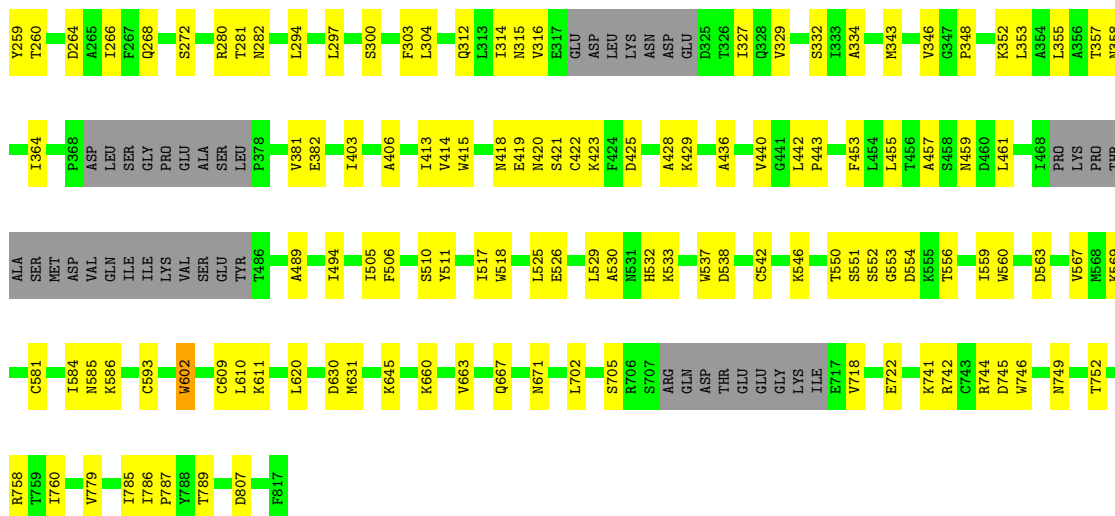
Chain UL:  69% 20% 11%



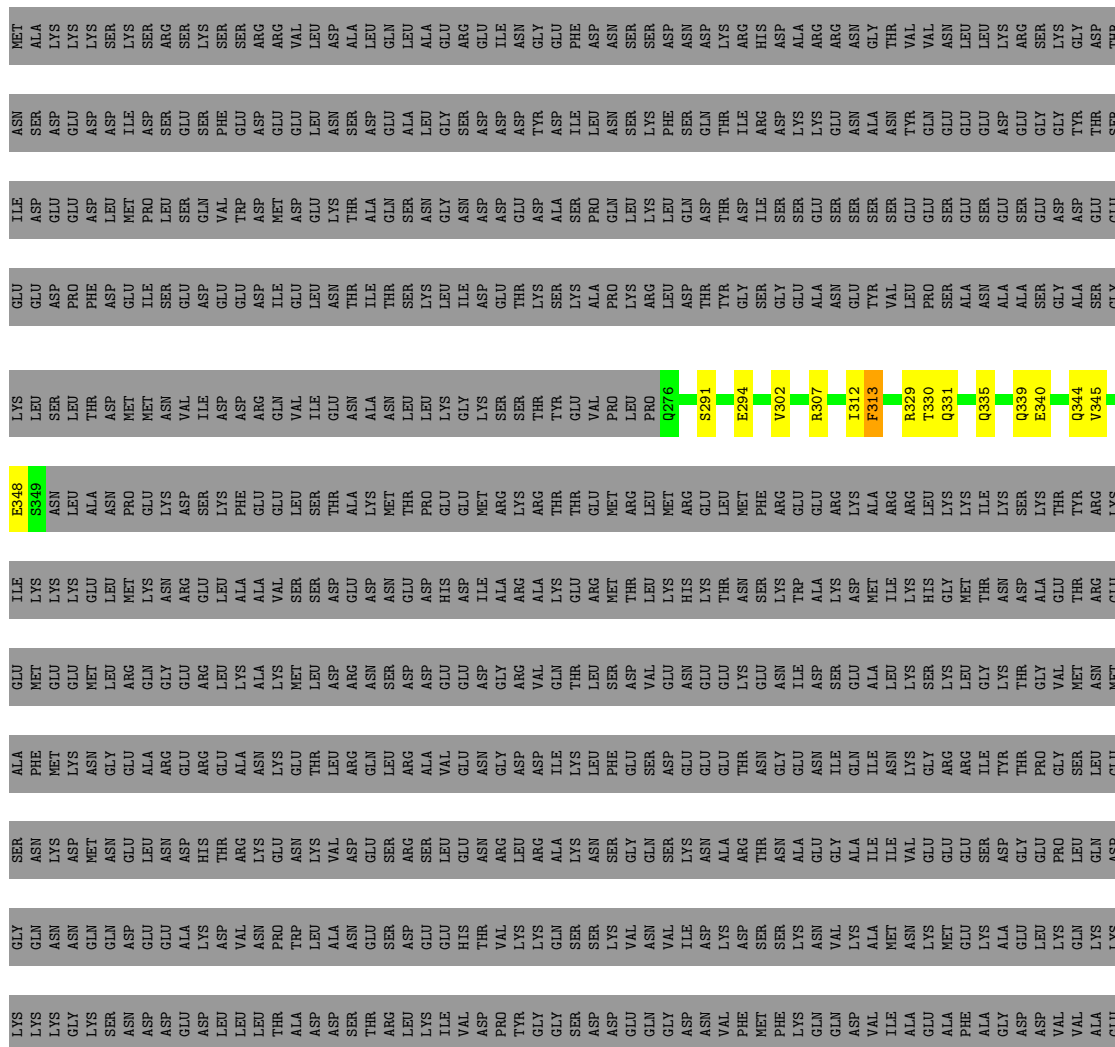
• Molecule 16: U3 small nucleolar RNA-associated protein 13

Chain UM:  71% 22% 7%





● Molecule 17: U3 small nucleolar RNA-associated protein 14



PHE
GLN
GLU
GLU
GLY
LYS
LYS
ARG
VAL
ILE
ASP
ASP
GLU
GLU
ASP
LYS
VAL
VAL
THR
THR
LEU
PRO
GLY
TRP
GLY
GLU
TRP
ALA
ALA
ALA
GLY
GLY
SER
LYS
PRO
LYS
ASN
LYS
LYS
ARG
LYS
PHE
ILE
LYS
LYS
VAL
VAL
GLY
LYS
VAL
ASN
LYS
ASP
LYS
ARG
LYS
ASP
LYS
LEU
LEU

S845
A846
S860
L861
R862
M863
P864
I865
I879
I883
K886
V890
L894
K899

● Molecule 18: U3 small nucleolar RNA-associated protein 15

Chain UO: 74% 22%

MET
S2
T3
A4
R5
K12
P17
T20
K27
R28
Q29
T31
S32
A33
Q34
H51
P52
H53
R71
S59
S60
T61
R62
R71
R79
S86
R90
L95
A98
V105
S106
Y107
Y108
L117
L118
S119
I120
H125
T126
T127
H128

H133
T134
Q135
D136
M137
K138
I139
S144
D145
D146
R147
R150
L151
T30
A157
P160
T165
G166
A167
T168
R172
T173
H53
P181
H182
S188
Y189
D190
G191
D197
T198
R199
S200
S201
D212
V215
E216
C229
G230
M233
K244
E247
M252
C257

L258
M263
K268
Q269
G279
F298
P301
N302
L303
N315
S323
T331
K332
K333
K334
GLU
LYS
ARG
SER
SER
SER
ASP
LYS
GLU
ASN
ALA
ALA
ALA
PHE
ASN
LYS
ASN
ALA
K353
Q358
R362
E371
H372
I373
D377
K378
R390
N391
Q394
F395
K396

D402
N403
A404
L413
V417
E420
K423
R424
G425
K426
Y432
G433
R434
R434
E440
N444
G449
Y453
R454
S455
A456
Y459
A460
Y470
L508
Q509
T512
SER

● Molecule 19: Bud site selection protein 21

Chain UP: 20% 8% 72%

MET
SER
ASN
GLY
HIS
VAL
LYS
PHE
GLN
ASP
ALA
ASP
GLU
SER
GLN
ALA
SER
ALA
VAL
THR
ASP
ARG
GLU
SER
GLN
ASP
ASP
VAL
LYS
SER
SER
ASP
LYS
ALA
LYS
ASP
LYS
GLN
ALA
LYS
VAL
LYS
SER
HIS
SER
SER
SER
ASP
LYS
SER
GLU
GLU
GLU
SER
SER

SER
GLU
VAL
GLU
SER
GLN
THR
ILE
THR
GLN
ARG
GLU
GLU
ALA
SER
GLN
LEU
SER
GLN
ARG
ARG
LYS
GLN
SER
VAL
LYS
SER
VAL
SER
SER
ASN
LYS
THR
GLU
VAL
THR
ASP
GLU
VAL
ASP
VAL
ILE
ALA
GLU
LEU
PRO
GLN
PRO
GLU
GLU
GLY
LEU
LEU
HIS
SER
GLY
LYS
ILE

ASP
GLN
LYS
ASP
GLY
GLU
SER
THR
GLN
TYR
SER
SER
SER
ARG
VAL
PHE
THR
ASP
LYS
LEU
ASP
GLU
SER
GLU
LYS
I155
K156
T157
K158
K159
T162
L166
S182
L190
K194
I199
R204
W205
L206
N207
R208
K209
A210

K213
G214

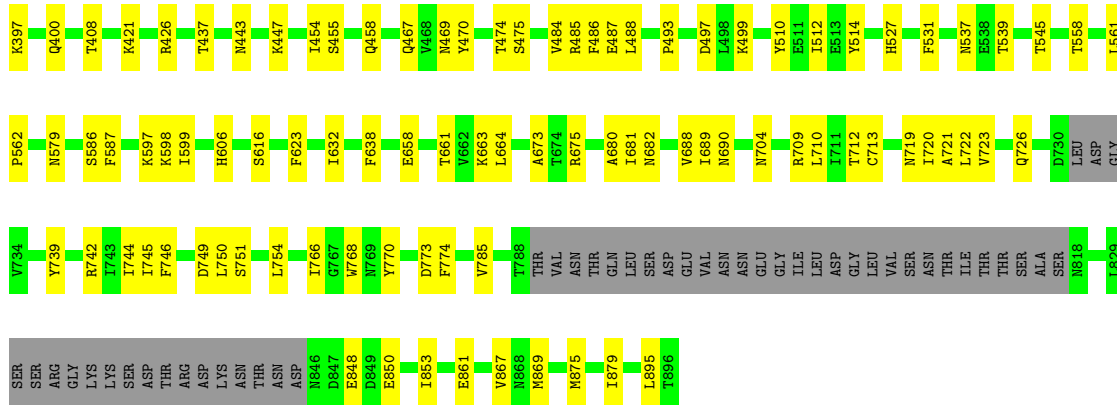
● Molecule 20: NET1-associated nuclear protein 1

Chain UQ: 72% 21% 7%

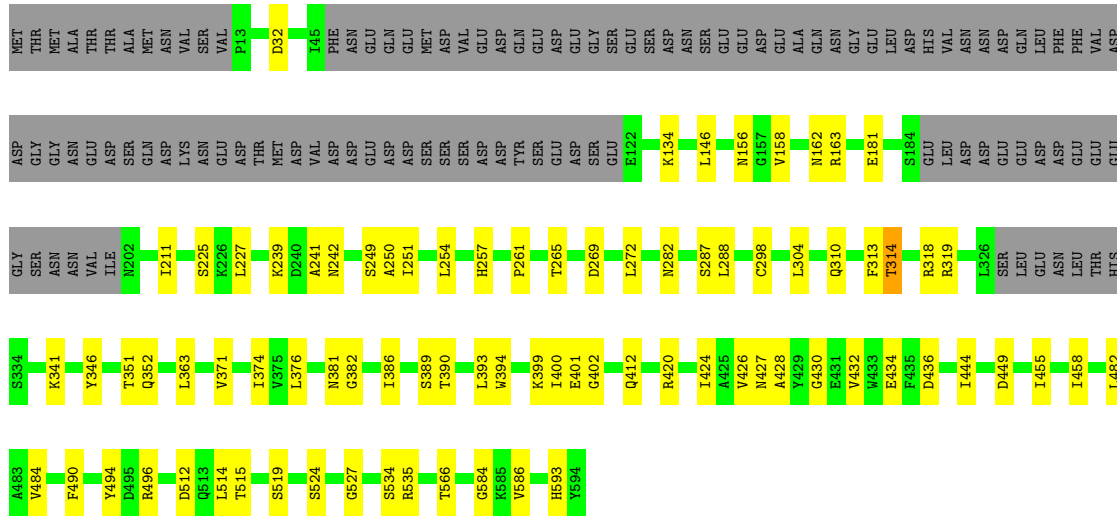
MET
THR
GLN
SER
LEU
GLY
ILE
GLU
Q9
G17
G18
K19
P20
N24
S38
Q39
D40
Q41
R42
F48
M49
N50
T59
R60
Q61
L66
L73
I96
Q101
GLU
ASP
A104
T108
N112
M113
V118
L119
M120
K124
L125
G278
P129
K130
K133
L136

L141
V144
S147
E148
I153
T155
L154
D159
PRO
SER
GLN
LYS
ALA
HIS
M166
S167
Y171
R172
L173
Y174
K182
K183
G339
I340
N200
N204
L208
S226
L230
F231
D232
L237
I244
N255
M262
D265
N266
G278
V279
V283
Q289
I290

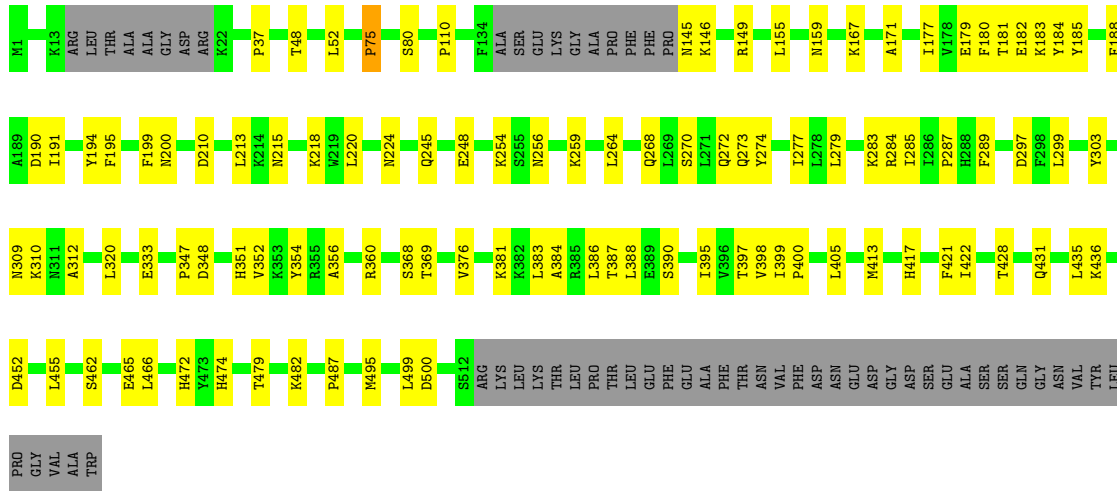
K294
V300
D308
Y311
L312
E318
K319
V320
M321
S322
L323
W324
Q325
L326
Q331
F333
L334
P335
R386
L387
N388
I340
D343
L356
I357
L358
Q359
E362
N363
N366
S367
D368
Y369
Q370
F371
S377
D378
L379
T380
S381
I385
N386
G387
P388
L389



● Molecule 21: U3 small nucleolar RNA-associated protein 18



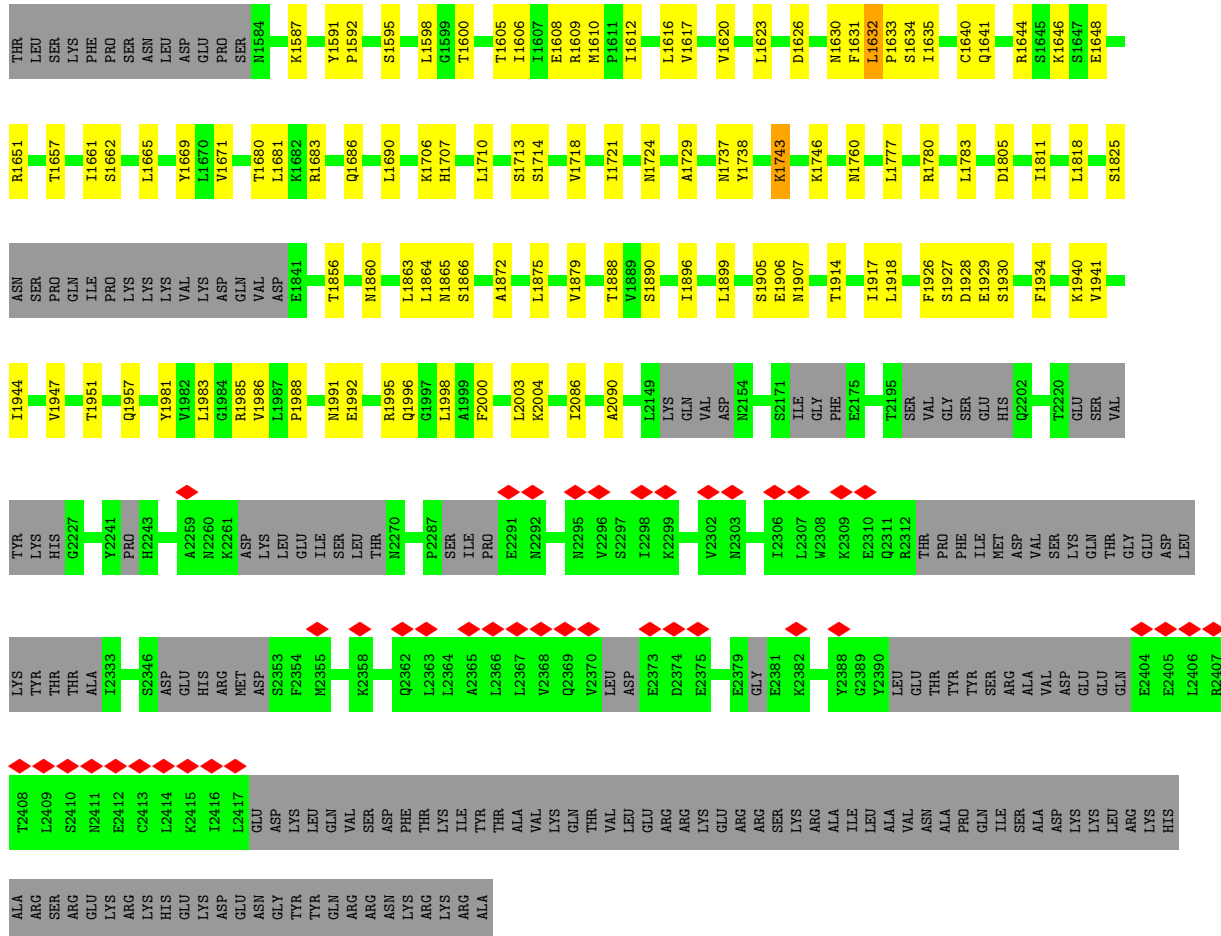
● Molecule 22: Nucleolar complex protein 4



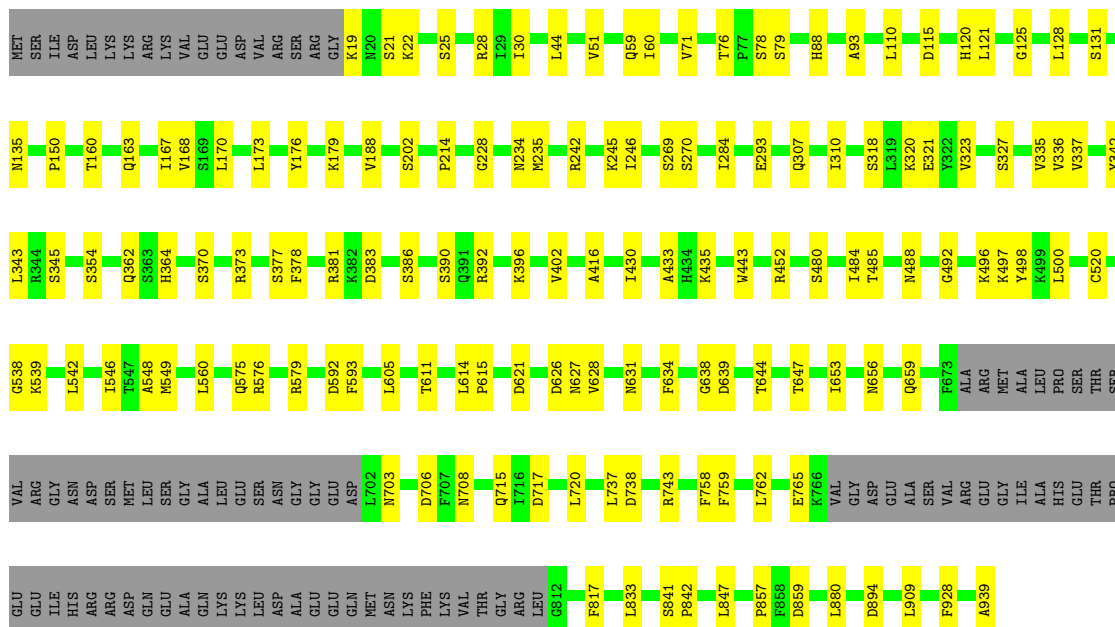
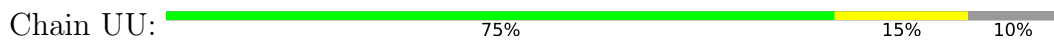
● Molecule 23: U3 small nucleolar RNA-associated protein 20



MET	ALA	LYS	Q4	K12	R13	R14	R15	S18	F19	L26	K27	L28	P28	P30	A31	R32	N33	L34	E35	K36	R37	V38	H39	D40	H46	F51	D52	Q53	W54	K55	L59	S60	A61	A67	E71	Q75	T76	L77	I80	N96	D99	E100	L103	Q112	F113																																																		
C114	L117	D120	F121	L122	Y125	T131	L132	I133	L136	A139	I140	E149	L155	V167	L180	L188	S189	R190	F191	S192	L199	V200	R201	P204	F211	V212	V215	K218	L219	E220	Q225	L228	L232	L233	L234	T237	T241	S242	T243	K250	S256	L258	H260	E269	R270	S271	V272	S273	L274	L275	S276	W279	S283	A286	L292	P293	V294	V297	W298	Y299	F302	N303	D304	S305	L306	R313	L314	L315	L318	T319	T320	I321	V322	K329	K335																				
I340	I343	E348	ASN	CYS	ALA	SER	LEU	SER	Q355	Q356	K357	A363	P367	N368	N383	L386	T387	E395	L403	S404	V408	F411	D419	L417	Q418	F420	Q428	K431	F436	L437	E438	V439	D440	P443	V448	R449	E450	V451	L459	R462	D463	F465	V466	A468	E478	I479	I480	R481	R482	Q355	Q356	K357	Q492	R493	T494	E495	I496	I497	I498	L499	L500	L501	E502	R503	N513	T515	K516	D517	M518	L522	L523	K524	I525	K528	ASP	ASP	ASP	ALA	SER	GLY	N535	N536	L537	K538	K539	N544	N545	N547	E550	N553					
N559	V562	L571	L582	N588	R591	L591	P592	D593	I596	R597	Y598	E599	E626	R636	L640	T639	I641	I642	V645	K653	T654	L657	L666	F667	G668	V672	R673	F674	S675	W678	V681	N681	Y689	T690	D692	L695	L704	K705	L706	P707	G723	A724	N725	S731	S732	R737	L746	W747	Y750	S751	Y761	I762	E763	R764	R765	T768	Y770	P771	I772	L773	R774	R775	I785	E790	P798	N802	D803	F804	LYS	THR	TVR	LVS	ASP	GLU	N890	K891	D892	GLU	ASN	GLU	ARG	VAL	ILE												
P718	G723	A724	N725	S731	S732	R737	L746	W747	Y750	S751	Y761	I762	E763	R764	R765	T768	Y770	P771	I772	L773	R774	R775	I785	E790	P798	N802	D803	F804	LYS	THR	TVR	LVS	ASP	GLU	ASN	GLU	ARG	VAL	ILE	S822	R828	N829	L832	I841	R850	L854	N862	T863	V865	Q866	K867	L868	A869	L870	L874	N878	Y884	R885	D886	R887	L888	K889	N890	L891	L892	T895	L896	F897	K898	D899	E900	Y1083	A1084	Y1087	R1090	I1091	F1094	M1098	L1099	Q1100	Q1101														
THR	GLY	S822	R828	N829	L832	I841	R850	L854	N862	T863	V865	Q866	K867	L868	A869	L870	L874	N878	Y884	R885	D886	R887	L888	K889	N890	L891	L892	T895	L896	F897	K898	D899	E900	Y1083	A1084	Y1087	R1090	I1091	F1094	M1098	L1099	Q1100	Q1101	Y960	I961	L965	S969	R970	L972	D973	Y974	E976	L991	Q1106	W1112	L1118	Q1120	F1121	Y1124	L1125	E1126	F1127	A1130	Q1140	H1141	P1148	I1150	I1151	E1152	I1157	L1170	V1171	T1172	Q1024	I1027	Y1034	R1055	Q1056	Q1057	G1058	L1059	K1060	Y1083	A1084	Y1087	R1090	I1091	F1094	M1098	L1099	Q1100	Q1101			
Y960	I961	L965	S969	R970	L972	D973	Y974	E976	L991	Q1106	W1112	L1118	Q1120	F1121	Y1124	L1125	E1126	F1127	A1130	Q1140	H1141	P1148	I1150	I1151	E1152	I1157	L1170	V1171	T1172	Q1024	I1027	Y1034	R1055	Q1056	Q1057	G1058	L1059	K1060	Y1083	A1084	Y1087	R1090	I1091	F1094	M1098	L1099	Q1100	Q1101	L1106	W1112	L1118	Q1120	F1121	Y1124	L1125	E1126	F1127	A1130	Q1140	H1141	P1148	I1150	I1151	E1152	I1157	L1170	V1171	T1172	Q1024	I1027	Y1034	R1055	Q1056	Q1057	G1058	L1059	K1060																		
L1224	I1227	L1228	K1231	K1242	I1243	L1244	I1245	L1247	L1249	N1253	Y1254	N1255	Y1265	L1271	F1272	K1273	T1274	D1276	E1277	R1278	L1279	L1280	L1281	GLU	GLU	GLU	ALA	ASP	PHE	THR	ASN	VAL	ASN	HIS	ILE	Q1468	Q1463	R1464	A1465	E1466	K1467	R1468	E1471	L1475	I1481	L1325	S1326	T1327	F1328	I1329	I1332	E1333	D1334	G1335	L1336	K1337	S1338	Y1339	S1340	W1344	L1345	P1346	F1349	L1382	I1385	M1386	N1387	K1388	A1382	L1363	R1364	T1365	N1366	A1367	I1371	M1372	K1373	F1374	I1375	D1376	F1377	I1378	N1379	E1380	K1381	P1382	N1383	E1386	A1387	S1388	K1389	I1390	L1394		
L1325	S1326	T1327	F1328	I1329	I1332	E1333	D1334	G1335	L1336	K1337	S1338	Y1339	S1340	W1344	L1345	P1346	F1349	L1382	I1385	M1386	N1387	K1388	A1382	L1363	R1364	T1365	N1366	A1367	I1371	M1372	K1373	F1374	I1375	D1376	F1377	I1378	N1379	E1380	K1381	P1382	N1383	E1386	A1387	S1388	K1389	I1390	L1394	I1397	L1398	L1399	L1400	L1401	L1402	G1405	L1410	V1413	Q1414	S1415	E1416	Y1417	V1418	V1425	T1428	T1432	D1433	F1434	E1435	D1436	M1437	L1441	TVR	ASN	GLY	ASP	GLU	GLU	ALA	ASP	PHE	THR	ASN	VAL	ASN	HIS	ILE	Q1468	Q1463	R1464	A1465	E1466	K1467	R1468	E1471	L1475	I1481
I1397	L1398	L1399	P1400	M1401	L1402	G1405	L1410	V1413	Q1414	S1415	E1416	Y1417	V1418	V1425	T1428	T1432	D1433	F1434	E1435	D1436	M1437	L1441	TVR	ASN	GLY	ASP	GLU	GLU	ALA	ASP	PHE	THR	ASN	VAL	ASN	HIS	ILE	Q1468	Q1463	R1464	A1465	E1466	K1467	R1468	E1471	L1475	I1481	L1489	V1493	F1494	S1495	ASP	ASP	GLU	TRV	R1501	T1507	Q1508	I1511	L1514	A1515	Q1516	H1517	M1518	S1519	W1520	N1521	R1529	M1533	K1537	P1538	N1539	Q1543	A1544	V1545	Q1546	L1547	I1548	V1549	Q1550	P1554	E1557	T1558	L1559	R1560	I1561	V1562	R1563	ASP	GLY	ALA	GLU	SER	LYS	LEU

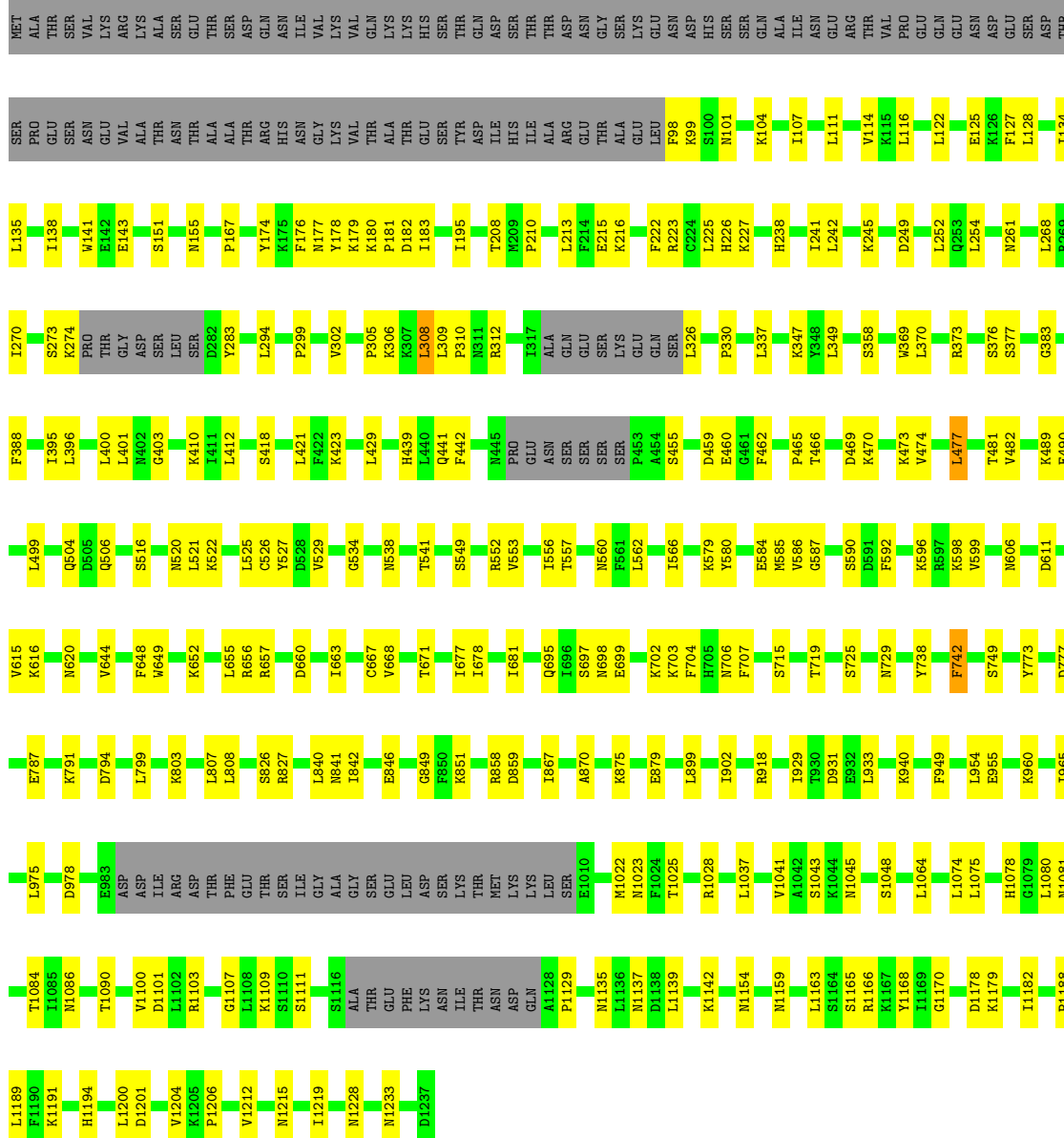


• Molecule 24: U3 small nucleolar RNA-associated protein 21




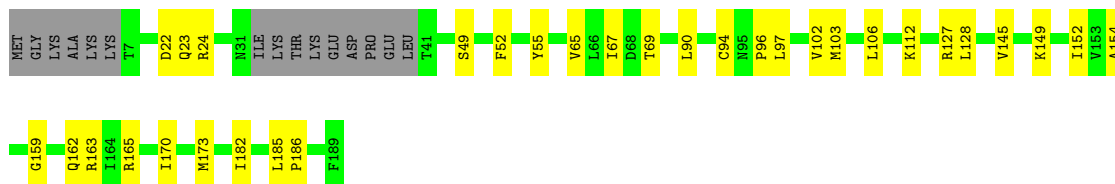
- Molecule 25: U3 small nucleolar RNA-associated protein 22

Chain UV:  66% 21% 13%




- Molecule 26: rRNA-processing protein FCF1

Chain UX:  75% 17% 8%



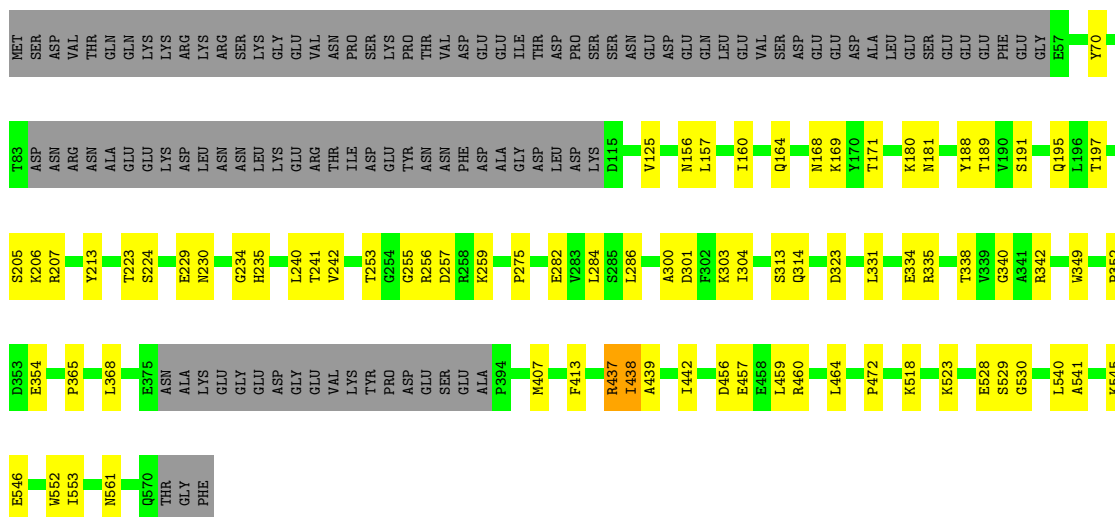
- Molecule 27: Ribosome biogenesis protein UTP30

Chain CG:  74% 23% ..




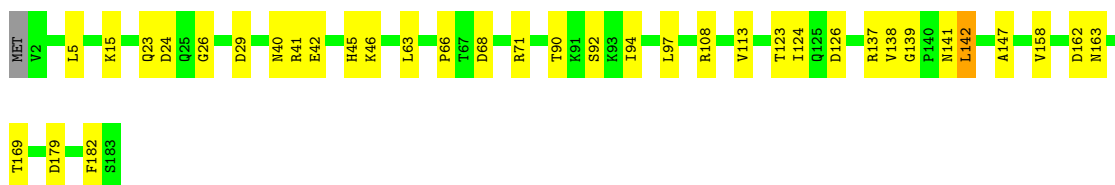
- Molecule 31: Ribosomal RNA-processing protein 9

Chain CH:  67% 14% 19%



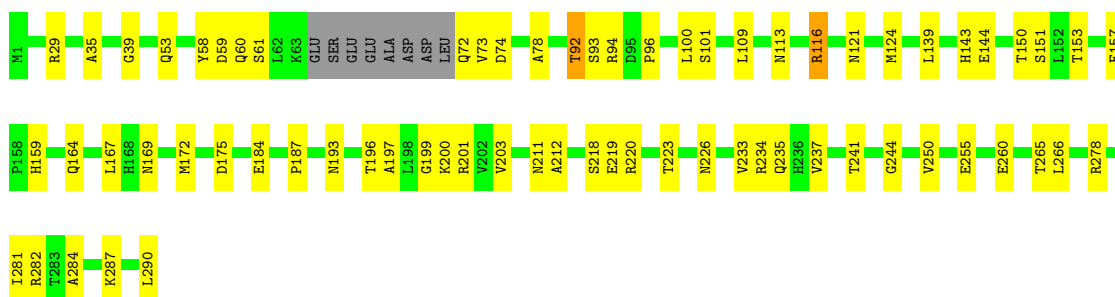
- Molecule 32: U3 small nucleolar ribonucleoprotein protein IMP3

Chain CI:  80% 19% ..



- Molecule 33: U3 small nucleolar ribonucleoprotein protein IMP4

Chain CJ:  73% 23% ..



- Molecule 34: U3 small nucleolar RNA-associated protein MPP10

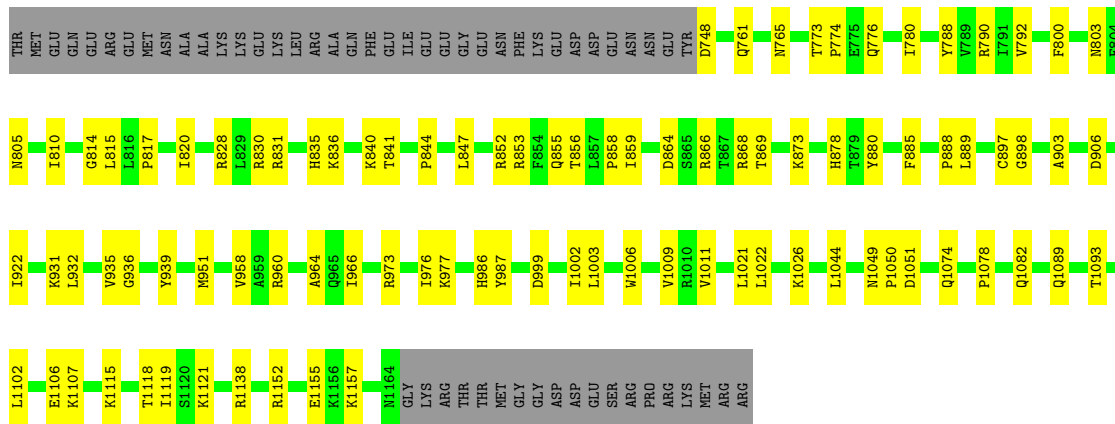
Chain CK:  30% 5% 65%

MET	GLN	THR	THR	H455	ASN
SER	VAL	GLY	LYS	P460	GLN
GLU	TRP	ILE	GLU	D478	LYS
LEU	ASN	TRP	PRO	A479	GLY
PHE	GLN	ASN	VAL	Q480	LYS
ALA	VAL	ASP	LYS	F481	ASP
GLY	VAL	LYS	LYS	L482	VAL
VAL	LEU	PHE	HIS	S488	SER
LEU	VAL	ASP	ARG	S489	LYS
LEU	VAL	ILE	LEU	P492	LYS
ASN	ASP	GLU	VAL	Q493	ASN
SER	GLU	GLY	VAL	E494	SER
ALA	SER	GLY	VAL	I495	ARG
ALA	LEU	LYS	LYS	E506	SER
ALA	SER	PHE	LYS	I507	GLY
GLY	ASP	ALA	THR	R508	PRO
ARG	ASP	ALA	LEU	N511	ASP
ILE	GLY	ILE	LEU	D524	THR
ILE	ASP	LEU	ARG	R527	LEU
ASP	ARG	PRO	THR	L528	GLN
ARG	GLN	ALA	ARG	R529	SER
ASP	ILE	ASN	GLN	R530	ALA
ASP	ASP	ASP	ASN	K538	ALA
ASP	ASP	ASP	PRO	A539	ALA
ASP	ASP	ASP	HIS	ASN	ASN
ASP	ASP	ASP	ASP	PRO	LEU
ASP	ASP	ASP	ASP	L526	LEU
ASP	ASP	ASP	ASP	V530	LEU
ASP	ASP	ASP	ASP	T350	LEU
ASP	ASP	ASP	ASP	P353	LEU
ASP	ASP	ASP	ASP	L386	LEU
ASP	ASP	ASP	ASP	T296	LEU
ASP	ASP	ASP	ASP	L297	LEU
ASP	ASP	ASP	ASP	E301	LEU
ASP	ASP	ASP	ASP	A425	LEU
ASP	ASP	ASP	ASP	L430	LEU
ASP	ASP	ASP	ASP	S452	LEU
ASP	ASP	ASP	ASP	S453	LEU
ASP	ASP	ASP	ASP	V454	LEU

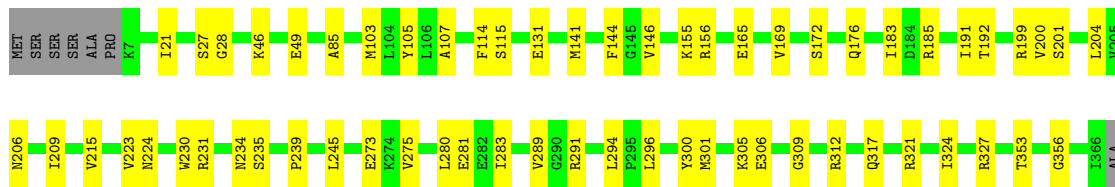
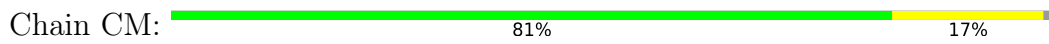
● Molecule 35: Ribosome biogenesis protein BMS1

Chain CL:  52% 13% 34%

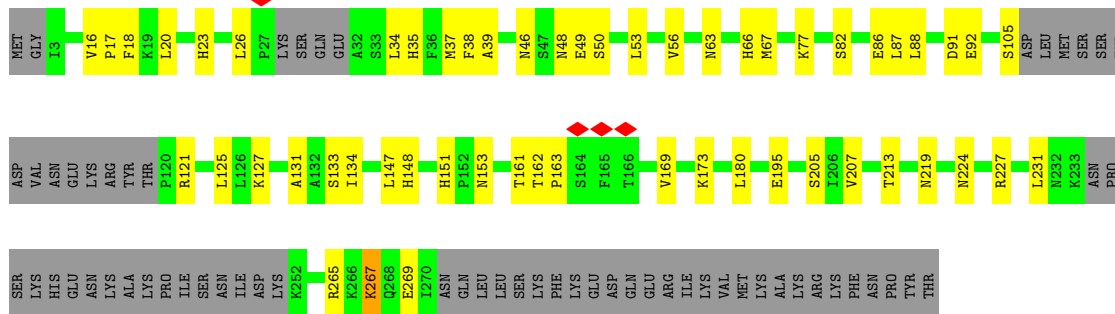
MET	GLU	P281	LYS	SER	GLU	ASP	SER	GLU
GLN	GLN	T286	ASN	GLY	ILE	ASP	GLY	ILE
SER	SER	L118	GLU	GLU	ASP	SER	GLY	ASP
ASN	ASN	R287	GLU	GLU	PHE	GLY	GLY	ASP
ASN	ASN	E119	PRO	SER	ASN	ASN	ASN	LYS
GLY	GLY	V288	SER	ILE	ASN	ASN	ILE	LEU
GLN	GLN	H289	PHE	GLU	THR	SER	GLU	LEU
HIS	HIS	V293	VAL	ASP	GLY	ASP	ASP	LEU
ARG	ARG	I131	PRO	ASP	THR	ASP	ASP	LEU
LYS	LYS	S297	PRO	GLY	GLN	GLY	GLY	LEU
ALA	ALA	L137	GLN	GLY	GLN	GLY	GLY	LEU
LYS	LYS	F148	GLU	LYS	ALA	GLY	LYS	LEU
GLY	GLY	Q300	GLU	ARG	GLY	GLY	ASP	LEU
LYS	LYS	E302	LYS	LYS	GLY	LYS	LYS	LEU
ASN	ASN	K303	GLU	GLY	GLY	GLY	ARG	LEU
THR	THR	L304	GLY	GLY	ALA	ALA	ARG	LEU
LEU	LEU	P305	GLU	THR	GLY	GLY	PHE	LEU
LEU	LEU	D306	GLU	LYS	GLY	GLY	ARG	LEU
LEU	LEU	H161	LEU	LEU	THR	THR	ASP	LEU
LEU	LEU	H162	LEU	ARG	ASP	ASP	LYS	LEU
LEU	LEU	G163	MET	ARG	THR	THR	LYS	LEU
LEU	LEU	M164	F220	LYS	SER	SER	LYS	LEU
LEU	LEU	P165	E321	THR	LYS	LYS	ASP	LEU
LEU	LEU	R166	R322	PRO	GLY	GLY	GLY	LEU
GLY	GLY	V170	GLU	LEU	THR	THR	ARG	LEU
GLY	GLY	S179	LYS	GLY	ILE	ILE	ILE	LEU
HIS	HIS	T182	LYS	VAL	GLY	GLY	GLY	LEU
ALA	ALA	E197	ALA	ALA	VAL	VAL	ASN	LEU
ALA	ALA	F205	ASN	GLU	GLY	GLY	GLY	LEU
VAL	VAL	Y206	GLY	ASP	PHE	ALA	ALA	LEU
ALA	ALA	L207	ILE	ASP	ALA	THR	THR	LEU
VAL	VAL	V210	THR	THR	ALA	ALA	ALA	LEU
ALA	ALA	Y215	ALA	VAL	ASN	ASN	ASN	LEU
ALA	ALA	R45	SER	LEU	LEU	LEU	LEU	LEU
ALA	ALA	P67	ARG	PHE	GLN	PRO	PRO	LEU
ALA	ALA	V72	LYS	ARG	GLY	GLY	GLY	LEU
ALA	ALA	A73	LYS	ARG	ASP	ASP	ASP	LEU
ALA	ALA	V74	ASN	ARG	THR	THR	THR	LEU
ALA	ALA	G81	ASP	ARG	THR	THR	THR	LEU
ALA	ALA	K82	VAL	LEU	ASN	ASN	ASN	LEU
ALA	ALA	H254	SER	ASP	HIS	HIS	HIS	LEU
ALA	ALA	T83	THR	LYS	ASP	ASP	ASP	LEU
ALA	ALA	L257	LEU	ASP	VAL	VAL	VAL	LEU
ALA	ALA	I86	LEU	ASP	ALA	ALA	ALA	LEU
ALA	ALA	R91	LYS	GLN	ASP	ASP	ASP	LEU
ALA	ALA	B92	ALA	HIS	HIS	HIS	HIS	LEU
ALA	ALA	L98	LYS	GLY	GLY	GLY	GLY	LEU
ALA	ALA	I105	ASN	PRO	MET	MET	MET	LEU
ALA	ALA	L275	ILE	THR	ASP	ASP	ASP	LEU
ALA	ALA	V454	THR	VAL	ASP	ASP	ASP	LEU
ALA	ALA	V454	ILE	ILE	LEU	LEU	LEU	LEU



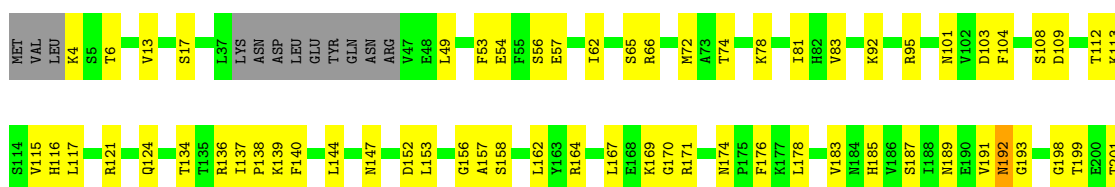
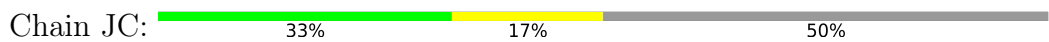
● Molecule 36: RNA 3'-terminal phosphate cyclase-like protein

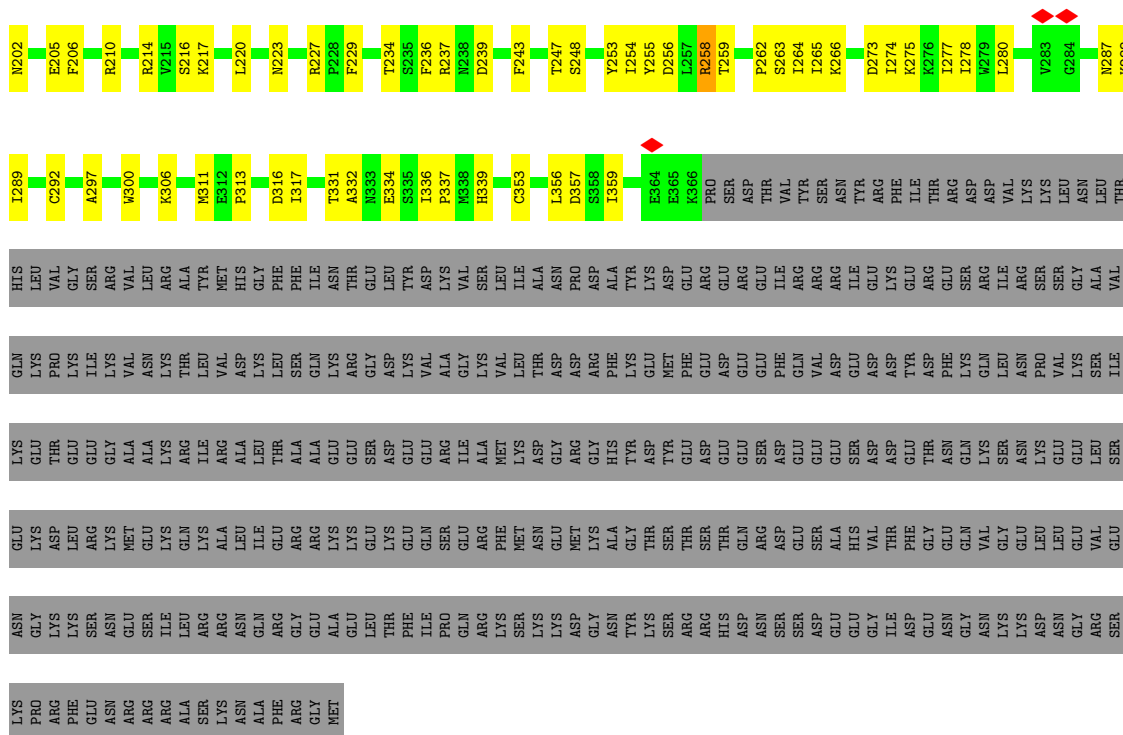


● Molecule 37: Ribosomal RNA-processing protein 7



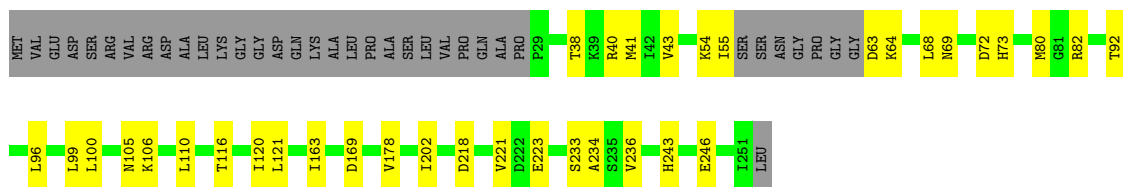
● Molecule 38: Ribosome biogenesis protein ENP2





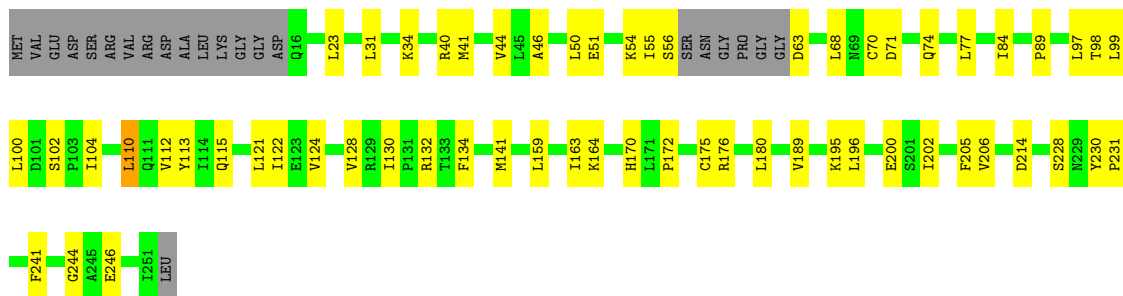
• Molecule 39: Ribosomal RNA small subunit methyltransferase NEP1

Chain JF: 71% 14% 14%



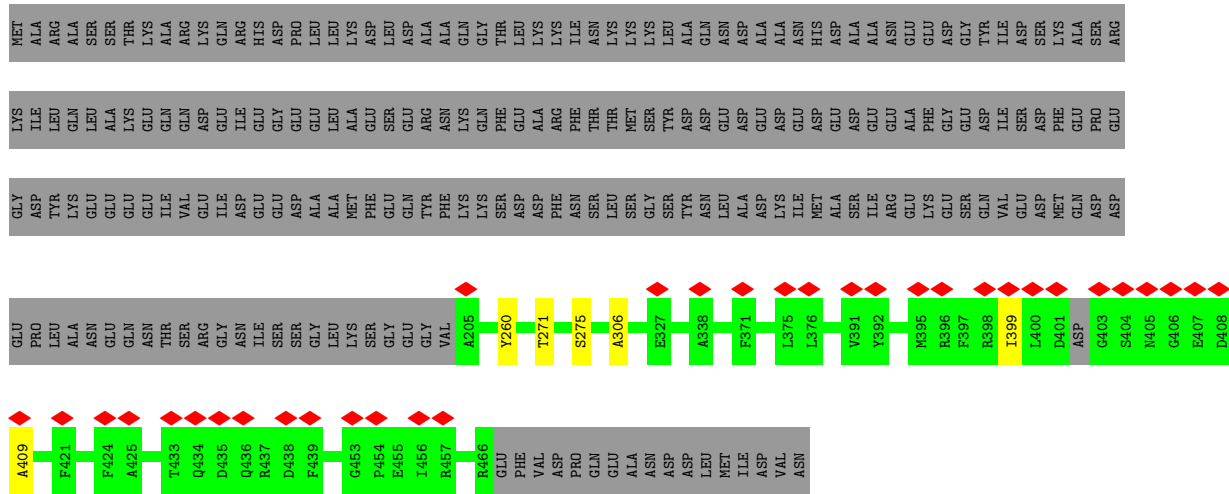
• Molecule 39: Ribosomal RNA small subunit methyltransferase NEP1

Chain JG: 67% 23% 9%

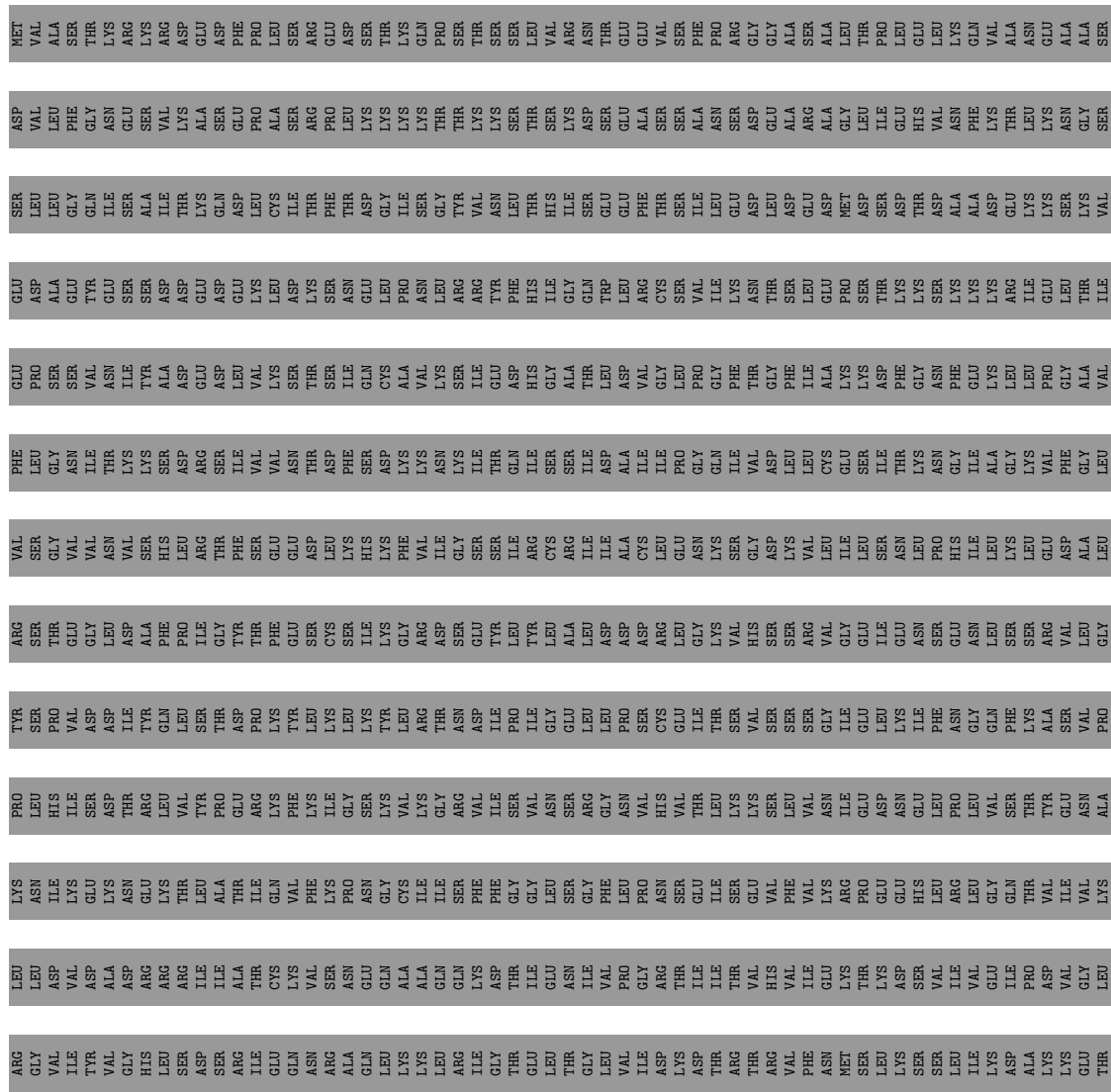


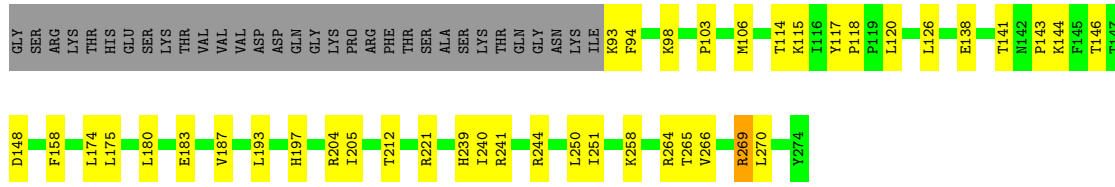
• Molecule 40: Essential nuclear protein 1

Chain JH: 7% 53% 46%

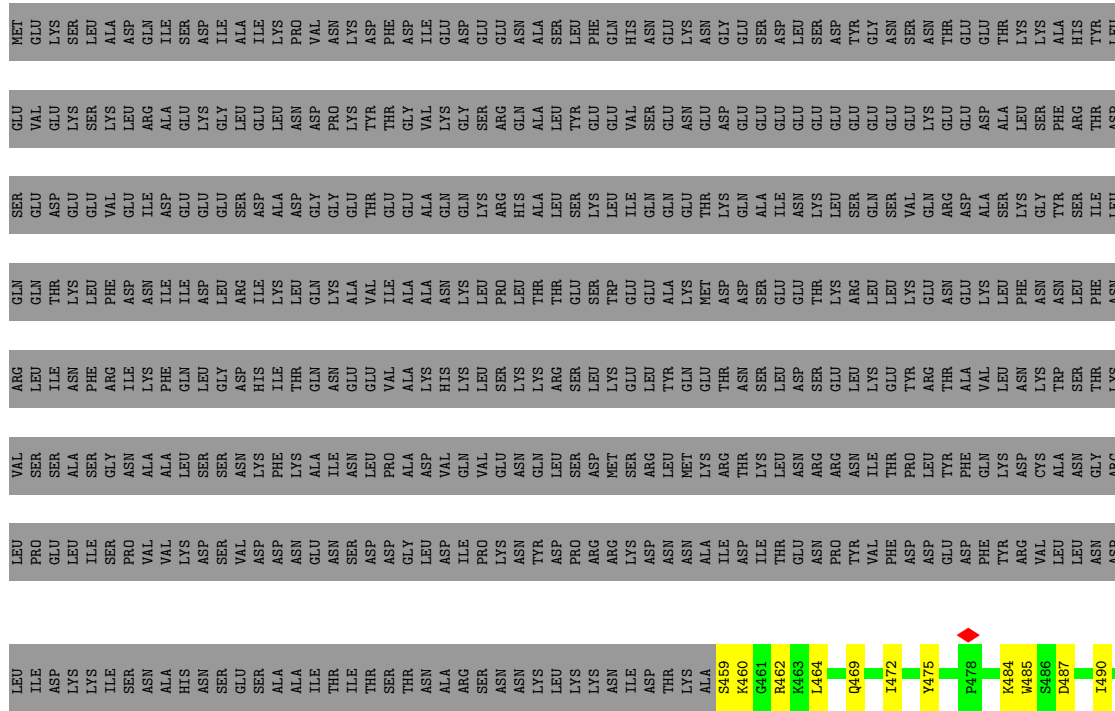


• Molecule 41: rRNA biogenesis protein RRP5

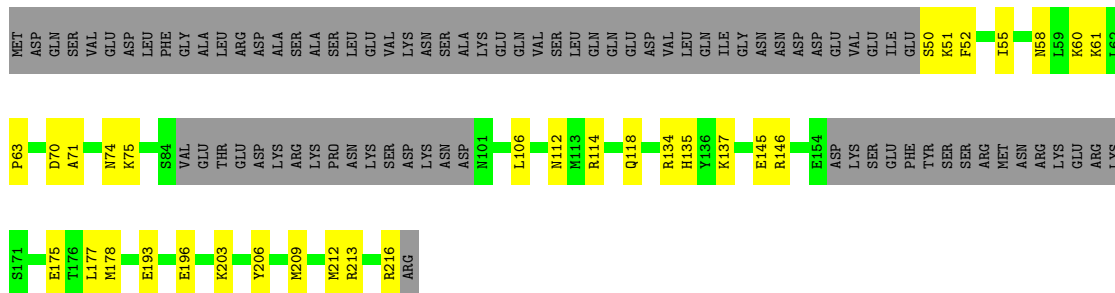




• Molecule 43: Protein BFR2

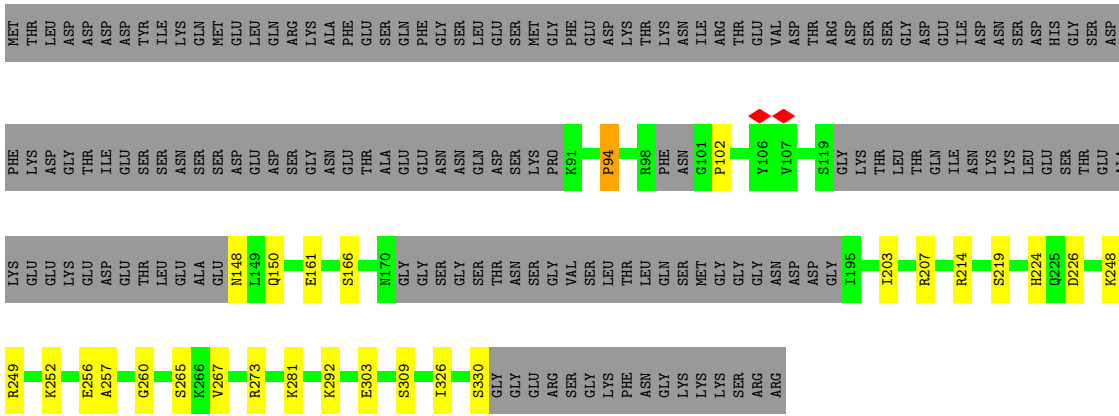


• Molecule 44: rRNA-processing protein FCF2

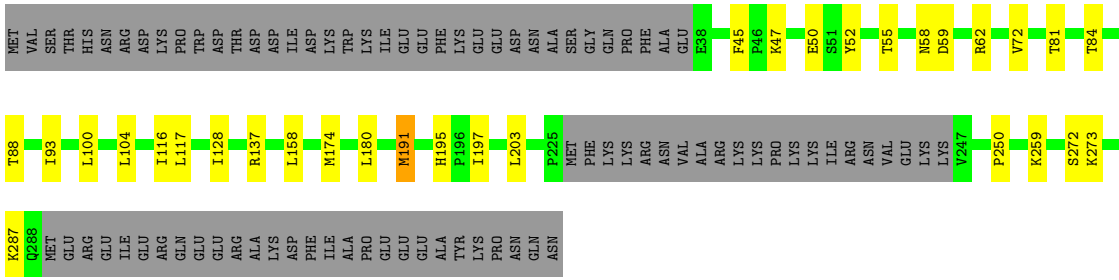


• Molecule 45: Protein FAF1

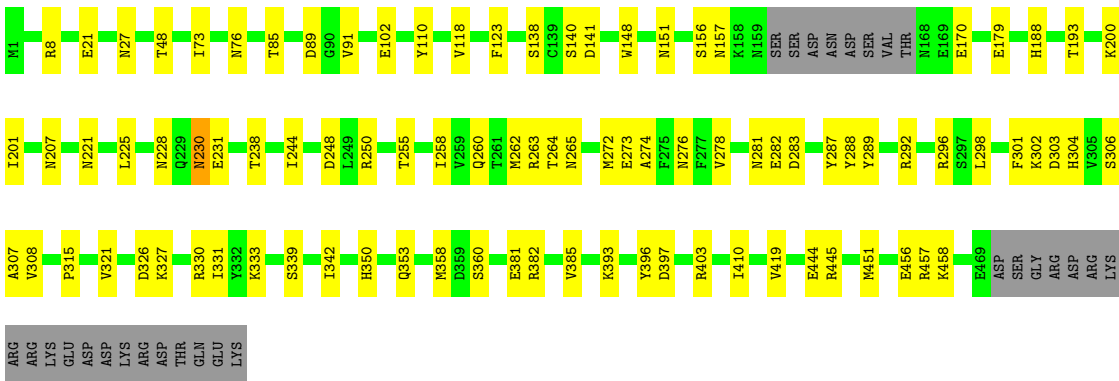
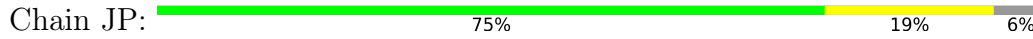




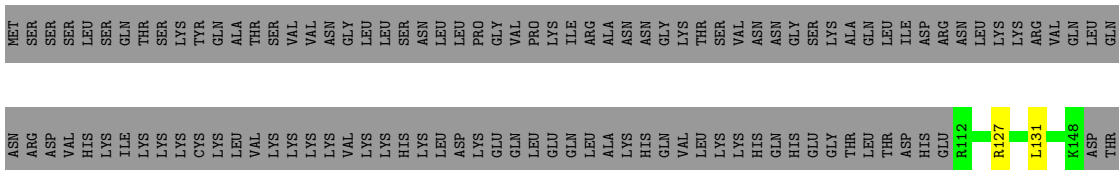
● Molecule 46: KRR1 small subunit processome component

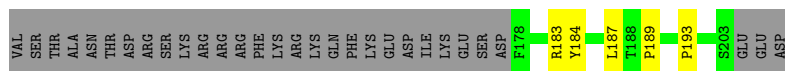


● Molecule 47: Protein SOF1

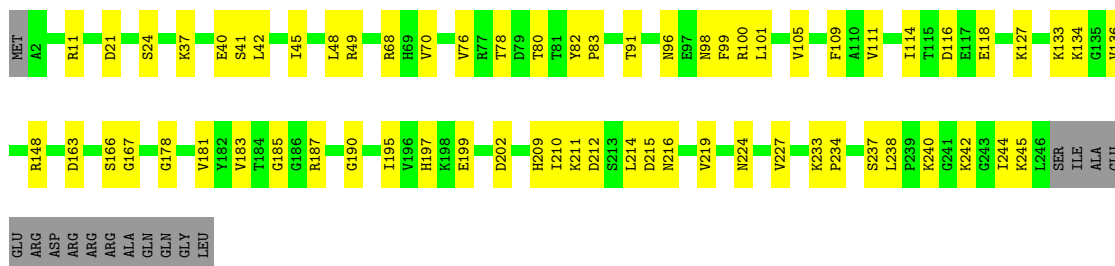


● Molecule 48: Regulator of rDNA transcription protein 14

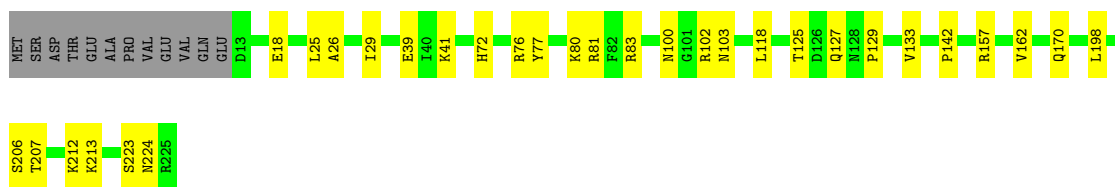
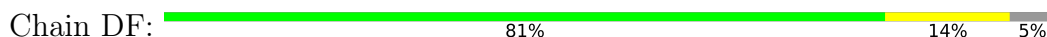




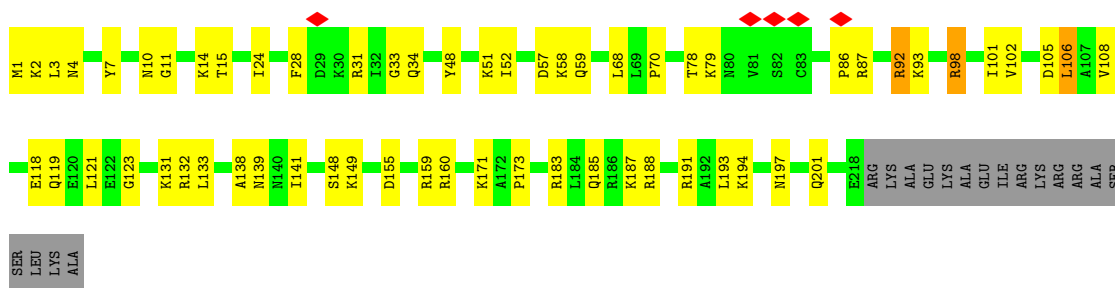
• Molecule 49: 40S ribosomal protein S4-A



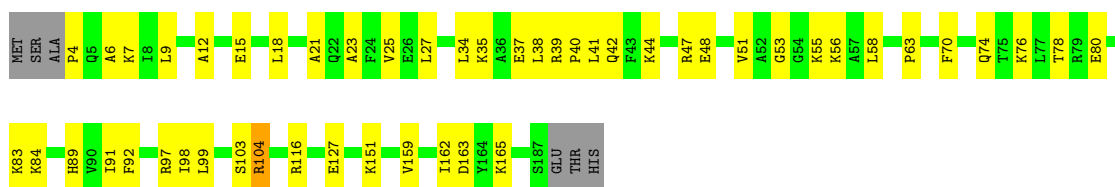
• Molecule 50: 40S ribosomal protein S5



• Molecule 51: 40S ribosomal protein S6-A

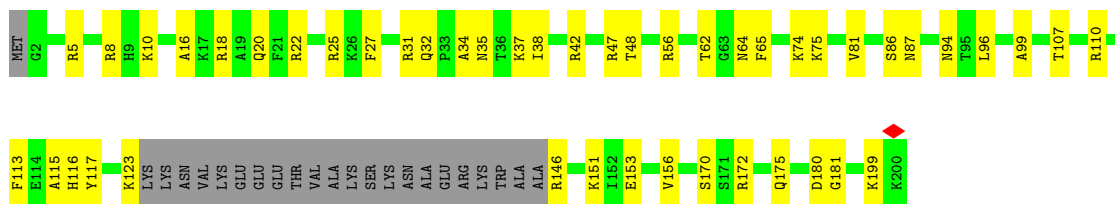


• Molecule 52: 40S ribosomal protein S7-A



• Molecule 53: 40S ribosomal protein S8-A

Chain DI: 65% 24% 12%



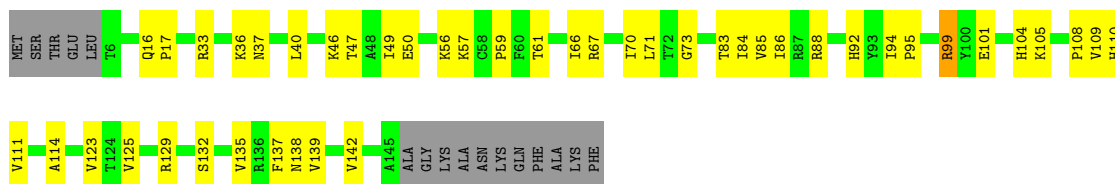
- Molecule 54: 40S ribosomal protein S9-A

Chain DJ: 82% 12% 6%



- Molecule 55: 40S ribosomal protein S11-A

Chain DL: 61% 28% 10%



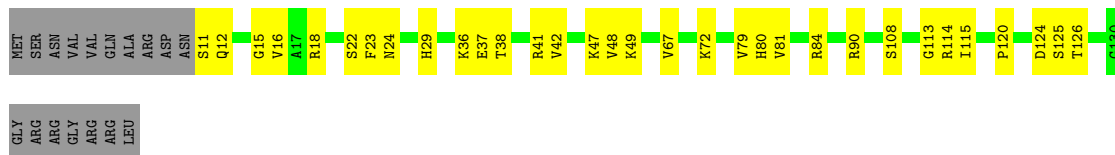
- Molecule 56: 40S ribosomal protein S13

Chain DN: 86% 13%



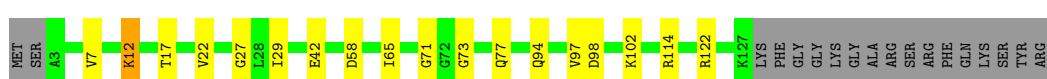
- Molecule 57: 40S ribosomal protein S14-A

Chain DO: 64% 23% 12%



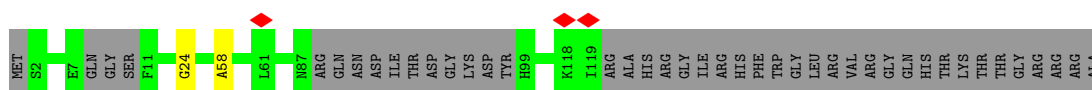
- Molecule 58: 40S ribosomal protein S16-A

Chain DQ: 75% 12% 13%




- Molecule 59: 40S ribosomal protein S18-A

Chain DS:  70% 29%



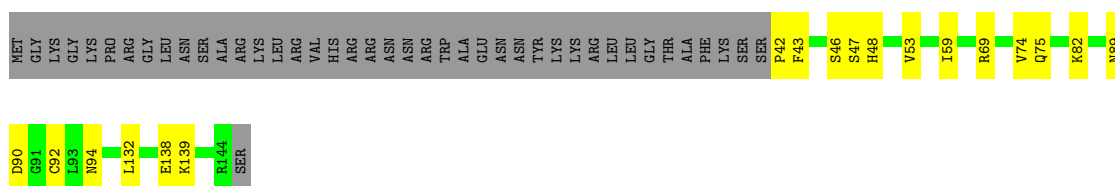
- Molecule 60: 40S ribosomal protein S22-A

Chain DW:  88% 12%




- Molecule 61: 40S ribosomal protein S23-A

Chain DX:  59% 12% 29%



- Molecule 62: 40S ribosomal protein S24-A

Chain DY:  76% 23%



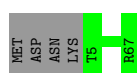
- Molecule 63: 40S ribosomal protein S27-A

Chain Db:  99%

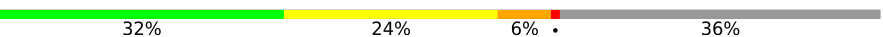


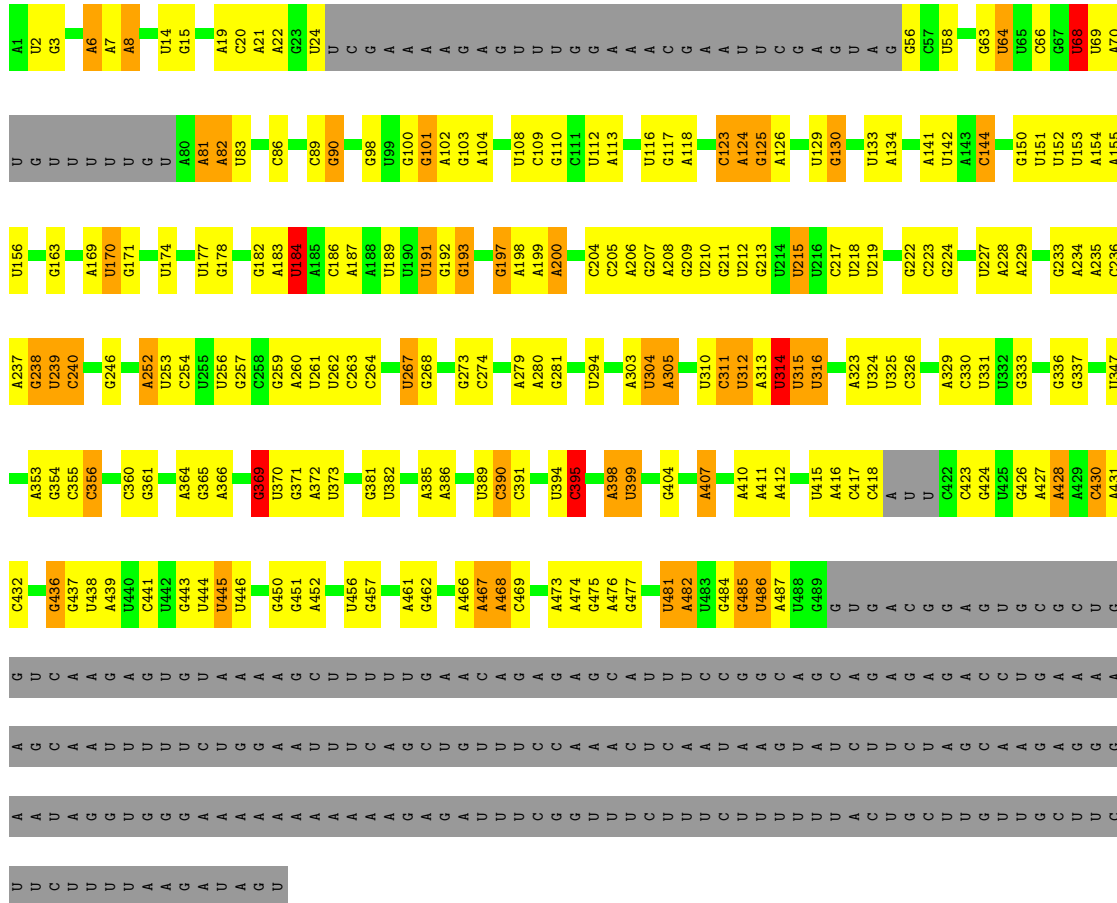
- Molecule 64: 40S ribosomal protein S28-A

Chain Dc:  94% 6%

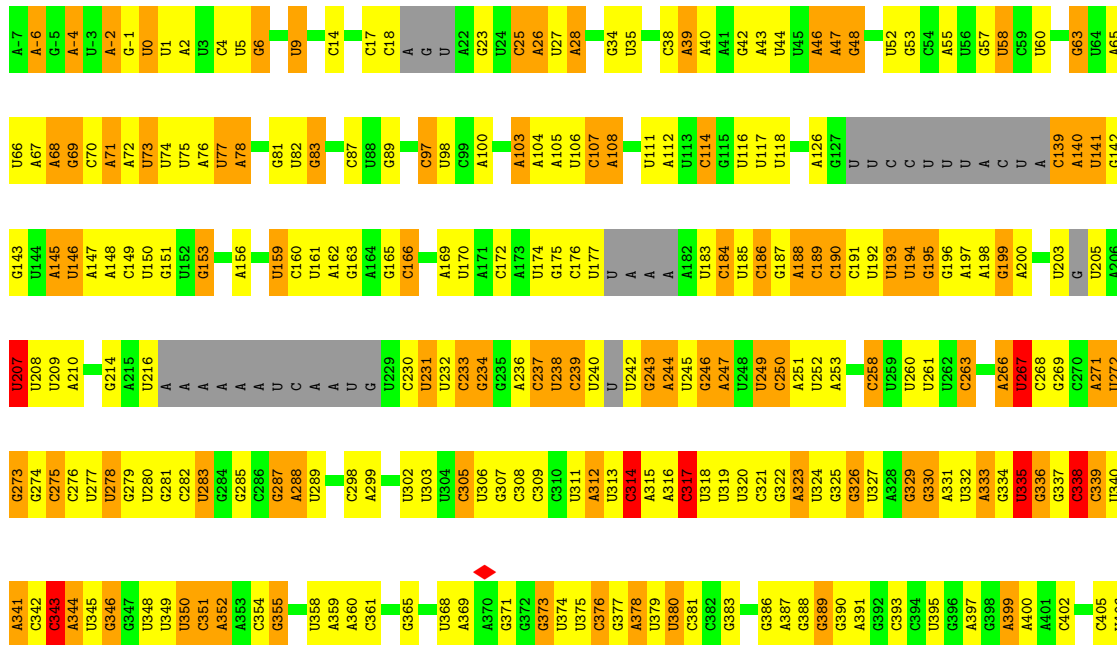
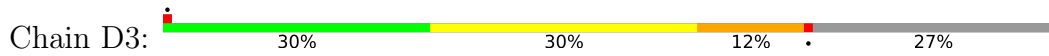


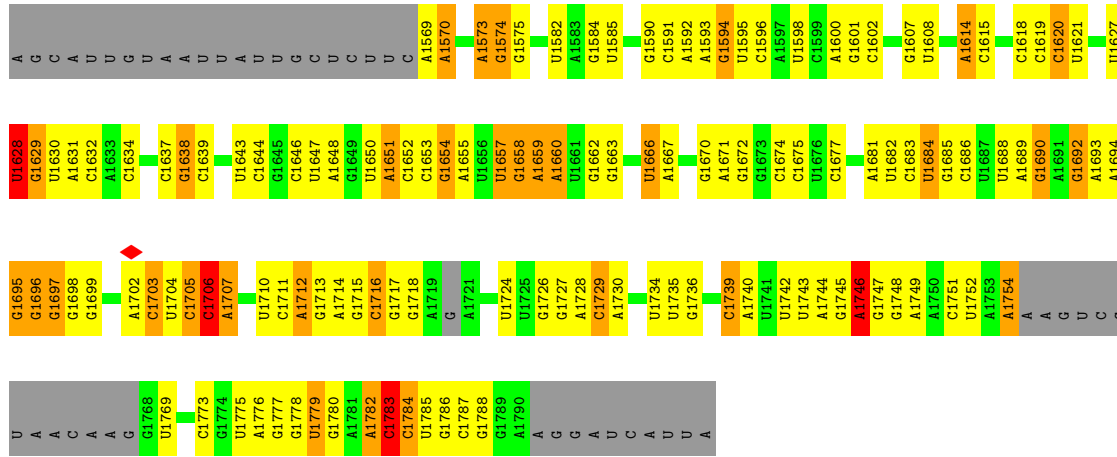
- Molecule 65: 5ETS RNA

Chain D2:  32% 24% 6% 36%

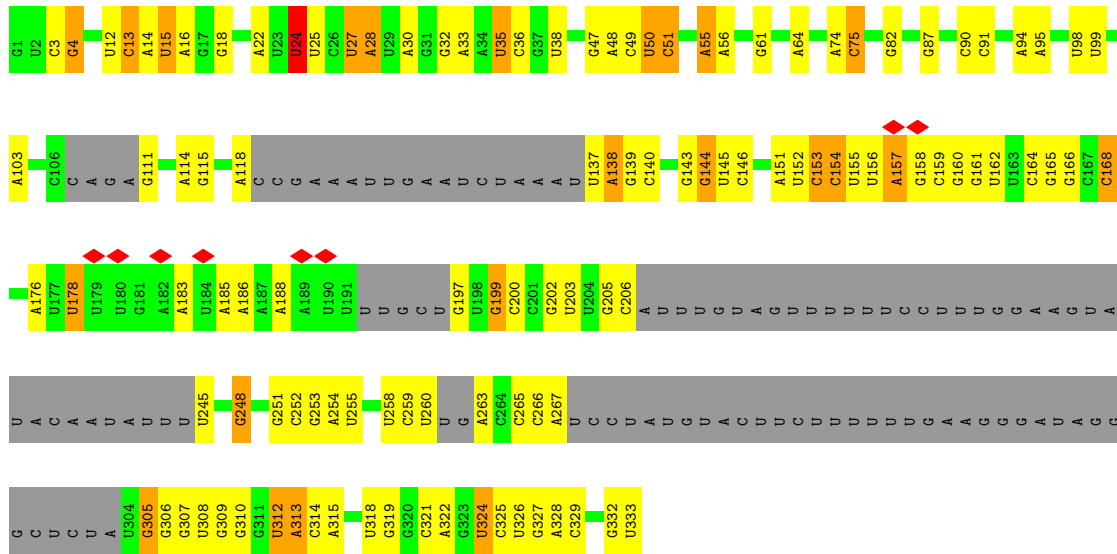


● Molecule 66: 18S rRNA





• Molecule 67: U3 snoRNA



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	43601	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	44	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.212	Depositor
Minimum map value	-0.128	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.01	Depositor
Map size (Å)	508.32, 508.32, 508.32	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.059, 1.059, 1.059	Depositor

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: GTP, ZN, MG

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	CA	0.55	0/1917	0.60	1/2588 (0.0%)
1	CB	0.38	0/1815	0.56	0/2448
2	DA	0.44	0/1937	0.57	0/2593
3	JA	0.29	0/6021	0.59	3/8176 (0.0%)
3	JB	0.26	0/4128	0.53	0/5747
4	UA	0.62	0/6780	0.64	3/9175 (0.0%)
5	UB	0.30	0/3787	0.55	5/5126 (0.1%)
6	UC	0.44	0/1034	0.52	0/1365
7	UD	0.39	0/5461	0.59	3/7395 (0.0%)
8	UE	0.43	0/3840	0.59	2/5208 (0.0%)
9	UF	0.40	0/2538	0.51	1/3405 (0.0%)
10	UG	0.59	0/4302	0.64	2/5805 (0.0%)
11	UH	0.29	0/2716	0.55	7/3721 (0.2%)
12	UI	0.27	0/875	0.55	0/1176
13	UJ	0.36	0/9111	0.58	2/12323 (0.0%)
14	UK	0.44	0/2047	0.53	0/2711
15	UL	0.36	0/6857	0.57	0/9253
16	UM	0.35	0/6070	0.58	1/8216 (0.0%)
17	UN	0.48	0/1252	0.55	0/1688
18	UO	0.43	0/3993	0.57	0/5413
19	UP	0.29	0/499	0.55	0/659
20	UQ	0.38	0/6794	0.57	2/9203 (0.0%)
21	UR	0.54	0/3883	0.61	0/5265
22	US	0.32	0/3703	0.55	4/5053 (0.1%)
23	UT	0.30	0/17584	0.56	5/23824 (0.0%)
24	UU	0.56	0/6815	0.60	0/9213
25	UV	0.32	0/8945	0.53	1/12097 (0.0%)
26	UX	0.55	0/1418	0.63	0/1906
27	UZ	0.34	0/2041	0.54	0/2745
28	CD	0.41	0/3041	0.51	1/4098 (0.0%)
29	CE	0.38	0/3362	0.56	1/4533 (0.0%)
30	CF	0.47	0/944	0.57	0/1284

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
30	CG	0.48	0/941	0.59	0/1281
31	CH	0.40	0/3798	0.57	0/5113
32	CI	0.66	0/1559	0.68	1/2097 (0.0%)
33	CJ	0.54	0/2337	0.64	0/3148
34	CK	0.43	0/1685	0.57	0/2261
35	CL	0.47	0/6471	0.56	1/8708 (0.0%)
36	CM	0.38	0/2832	0.53	0/3825
37	CN	0.31	0/1934	0.49	0/2604
38	JC	0.30	0/2908	0.59	0/3938
39	JF	0.30	0/1727	0.53	0/2329
39	JG	0.36	0/1828	0.55	0/2470
40	JH	0.24	0/1293	0.36	0/1801
41	JI	0.25	0/1313	0.49	0/1830
42	JJ	0.33	0/1469	0.53	0/1980
43	JK	0.26	0/342	0.52	0/462
44	JM	0.40	0/1156	0.51	0/1536
45	JN	0.45	0/1435	0.57	1/1907 (0.1%)
46	JO	0.44	0/1910	0.55	0/2569
47	JP	0.63	0/3844	0.64	0/5174
48	JQ	0.30	0/385	0.48	0/529
49	DE	0.34	0/1985	0.54	0/2675
50	DF	0.49	0/1690	0.57	1/2285 (0.0%)
51	DG	0.30	0/1779	0.53	1/2379 (0.0%)
52	DH	0.34	0/1506	0.56	0/2028
53	DI	0.28	0/1422	0.51	0/1899
54	DJ	0.51	0/1519	0.58	0/2035
55	DL	0.28	0/1155	0.52	0/1557
56	DN	0.42	0/1215	0.53	0/1638
57	DO	0.45	0/892	0.53	0/1202
58	DQ	0.63	0/990	0.67	0/1335
59	DS	0.25	0/513	0.49	0/711
60	DW	0.50	0/1038	0.57	0/1395
61	DX	0.48	0/798	0.60	0/1065
62	DY	0.45	0/1087	0.52	0/1449
63	Db	0.42	0/620	0.55	0/838
64	Dc	0.46	0/499	0.59	0/670
65	D2	0.76	0/10633	1.13	50/16564 (0.3%)
66	D3	0.70	5/31617 (0.0%)	1.19	263/49213 (0.5%)
67	D4	0.78	0/5436	1.16	36/8446 (0.4%)
All	All	0.49	5/243071 (0.0%)	0.75	398/338358 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected

by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
3	JA	0	1
4	UA	0	1
11	UH	0	1
15	UL	0	2
16	UM	0	6
17	UN	0	1
23	UT	0	2
24	UU	0	1
25	UV	0	1
28	CD	0	1
31	CH	0	1
34	CK	0	1
46	JO	0	1
47	JP	0	2
58	DQ	0	1
All	All	0	23

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
66	D3	1164	G	C6-O6	-7.57	1.17	1.24
66	D3	1158	C	N3-C4	-7.56	1.28	1.33
66	D3	553	G	C2-N3	-6.93	1.27	1.32
66	D3	1158	C	C4-N4	-6.11	1.28	1.33
66	D3	355	G	C2-N3	-5.13	1.28	1.32

All (398) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
66	D3	1158	C	N3-C4-N4	-25.45	100.18	118.00
66	D3	1164	G	N1-C6-O6	-24.31	105.32	119.90
66	D3	1158	C	C5-C4-N4	18.09	132.87	120.20
66	D3	1158	C	N3-C4-C5	11.86	126.64	121.90
65	D2	356	C	N3-C2-O2	-11.72	113.69	121.90
66	D3	1164	G	C5-C6-O6	11.70	135.62	128.60
67	D4	24	U	N3-C2-O2	-11.43	114.20	122.20
65	D2	267	U	N3-C2-O2	-11.35	114.26	122.20
66	D3	276	C	N3-C2-O2	-11.29	114.00	121.90
65	D2	267	U	N1-C2-O2	11.16	130.61	122.80
66	D3	1705	C	N3-C2-O2	-11.05	114.16	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
67	D4	24	U	N1-C2-O2	10.86	130.40	122.80
66	D3	553	G	N9-C4-C5	10.76	109.70	105.40
66	D3	784	C	N1-C2-O2	10.62	125.27	118.90
66	D3	276	C	C6-N1-C2	-10.51	116.10	120.30
66	D3	355	G	N1-C6-O6	-10.46	113.62	119.90
65	D2	267	U	C2-N1-C1'	10.36	130.13	117.70
67	D4	24	U	C2-N1-C1'	10.16	129.89	117.70
66	D3	553	G	N3-C4-N9	-10.04	119.98	126.00
66	D3	1164	G	C5-C6-N1	9.90	116.45	111.50
66	D3	355	G	C5-C6-O6	9.82	134.49	128.60
66	D3	784	C	N3-C2-O2	-9.82	115.03	121.90
66	D3	553	G	N1-C6-O6	-9.81	114.01	119.90
67	D4	178	U	N3-C2-O2	-9.80	115.34	122.20
66	D3	1060	U	N1-C2-O2	9.77	129.64	122.80
66	D3	1696	G	C5-C6-O6	9.45	134.27	128.60
67	D4	266	C	N3-C2-O2	-9.35	115.35	121.90
66	D3	1692	G	N3-C2-N2	-9.35	113.35	119.90
67	D4	55	A	O4'-C1'-N9	9.19	115.55	108.20
67	D4	168	C	N3-C2-O2	-9.18	115.47	121.90
66	D3	1451	C	N3-C2-O2	-9.11	115.52	121.90
65	D2	204	C	C2-N1-C1'	8.97	128.67	118.80
66	D3	1072	C	C5-C6-N1	8.90	125.45	121.00
65	D2	356	C	N1-C2-O2	8.87	124.22	118.90
66	D3	553	G	C5-C6-O6	8.79	133.87	128.60
66	D3	1060	U	N3-C2-O2	-8.70	116.11	122.20
66	D3	864	U	N3-C2-O2	-8.69	116.12	122.20
66	D3	795	U	C2-N1-C1'	8.66	128.10	117.70
66	D3	1077	C	N3-C2-O2	-8.65	115.84	121.90
8	UE	472	LEU	C-N-CA	8.63	143.27	121.70
67	D4	153	C	N3-C2-O2	-8.63	115.86	121.90
65	D2	144	C	N1-C2-O2	8.56	124.04	118.90
66	D3	190	C	N3-C2-O2	-8.54	115.92	121.90
66	D3	1675	C	N3-C2-O2	-8.53	115.93	121.90
66	D3	1696	G	N9-C4-C5	8.52	108.81	105.40
11	UH	520	PRO	CA-N-CD	-8.51	99.58	111.50
67	D4	13	C	N3-C2-O2	-8.51	115.94	121.90
66	D3	355	G	N9-C4-C5	8.47	108.79	105.40
66	D3	587	C	N3-C2-O2	-8.45	115.99	121.90
65	D2	418	C	N3-C2-O2	-8.42	116.00	121.90
66	D3	1495	C	N3-C2-O2	-8.38	116.03	121.90
66	D3	553	G	C8-N9-C1'	8.38	137.89	127.00
66	D3	1060	U	C2-N1-C1'	8.36	127.73	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
66	D3	645	C	N3-C2-O2	-8.36	116.05	121.90
66	D3	339	C	N3-C2-O2	-8.16	116.19	121.90
66	D3	1696	G	N1-C6-O6	-8.14	115.02	119.90
65	D2	108	U	N1-C2-O2	8.13	128.49	122.80
66	D3	1653	C	N3-C2-O2	-8.12	116.22	121.90
66	D3	343	C	N3-C2-O2	-8.11	116.22	121.90
66	D3	314	C	N3-C2-O2	-8.06	116.26	121.90
66	D3	1705	C	N1-C2-O2	7.96	123.68	118.90
66	D3	1729	C	N3-C2-O2	-7.95	116.34	121.90
66	D3	207	U	C2-N1-C1'	7.92	127.21	117.70
66	D3	444	C	N3-C2-O2	-7.92	116.35	121.90
66	D3	553	G	C6-C5-N7	7.89	135.13	130.40
66	D3	190	C	C6-N1-C2	-7.86	117.16	120.30
66	D3	1128	C	N3-C2-O2	-7.85	116.41	121.90
66	D3	314	C	C5-C4-N4	7.82	125.67	120.20
67	D4	27	U	N3-C2-O2	-7.75	116.78	122.20
65	D2	108	U	C2-N1-C1'	7.74	126.99	117.70
66	D3	314	C	C6-N1-C2	-7.65	117.24	120.30
65	D2	356	C	C6-N1-C2	-7.63	117.25	120.30
66	D3	190	C	N1-C2-O2	7.62	123.47	118.90
10	UG	160	LEU	CA-CB-CG	7.61	132.80	115.30
66	D3	795	U	N1-C2-O2	7.47	128.03	122.80
67	D4	13	C	N1-C2-O2	7.34	123.30	118.90
66	D3	683	C	N3-C2-O2	-7.33	116.77	121.90
66	D3	189	C	N1-C2-O2	7.32	123.29	118.90
66	D3	1696	G	C4-C5-N7	-7.29	107.88	110.80
65	D2	369	G	N3-C4-N9	7.29	130.38	126.00
66	D3	73	U	O5'-P-OP1	-7.26	99.17	105.70
29	CE	32	LEU	CA-CB-CG	7.22	131.90	115.30
66	D3	1060	U	O4'-C1'-N1	7.16	113.92	108.20
3	JA	130	LEU	C-N-CA	7.15	139.57	121.70
66	D3	14	C	N3-C2-O2	-7.13	116.91	121.90
66	D3	864	U	N1-C2-O2	7.12	127.78	122.80
65	D2	355	C	C2-N1-C1'	7.11	126.62	118.80
66	D3	1703	C	N3-C2-O2	-7.11	116.92	121.90
67	D4	27	U	C2-N1-C1'	7.10	126.22	117.70
1	CA	306	LEU	CA-CB-CG	7.10	131.63	115.30
66	D3	587	C	N1-C2-O2	7.10	123.16	118.90
66	D3	1451	C	N1-C2-O2	7.09	123.16	118.90
67	D4	168	C	C6-N1-C2	-7.08	117.47	120.30
67	D4	18	G	N3-C4-N9	-7.04	121.77	126.00
66	D3	207	U	N1-C2-O2	6.99	127.69	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
67	D4	24	U	C6-N1-C1'	-6.98	111.42	121.20
8	UE	17	LEU	CA-CB-CG	6.98	131.35	115.30
67	D4	178	U	N1-C2-O2	6.98	127.68	122.80
10	UG	264	PRO	C-N-CA	6.97	139.12	121.70
66	D3	166	C	N1-C2-O2	6.95	123.07	118.90
66	D3	287	G	O4'-C1'-N9	6.93	113.74	108.20
66	D3	1652	C	N1-C2-O2	6.92	123.05	118.90
5	UB	576	ILE	CG1-CB-CG2	-6.91	96.20	111.40
66	D3	1739	C	N3-C2-O2	-6.90	117.07	121.90
65	D2	311	C	P-O3'-C3'	6.90	127.98	119.70
4	UA	535	LEU	CA-CB-CG	6.89	131.15	115.30
66	D3	474	A	O4'-C1'-N9	6.87	113.70	108.20
66	D3	976	G	N3-C4-C5	-6.82	125.19	128.60
65	D2	204	C	N1-C2-O2	6.81	122.99	118.90
67	D4	266	C	N1-C2-O2	6.81	122.99	118.90
67	D4	27	U	N1-C2-O2	6.81	127.56	122.80
66	D3	338	C	C2-N1-C1'	6.79	126.27	118.80
66	D3	553	G	N3-C2-N2	-6.78	115.15	119.90
67	D4	51	C	N1-C2-O2	6.78	122.97	118.90
66	D3	1433	G	C4-N9-C1'	6.77	135.30	126.50
66	D3	864	U	C2-N1-C1'	6.76	125.81	117.70
66	D3	532	U	C2-N1-C1'	6.74	125.79	117.70
66	D3	1637	C	N3-C2-O2	-6.74	117.18	121.90
66	D3	795	U	N3-C2-O2	-6.73	117.49	122.20
5	UB	400	PRO	N-CA-CB	6.73	111.37	103.30
65	D2	314	U	N1-C2-O2	6.71	127.50	122.80
66	D3	1675	C	C6-N1-C2	-6.71	117.61	120.30
65	D2	355	C	N1-C2-O2	6.70	122.92	118.90
65	D2	399	U	C2-N1-C1'	6.68	125.72	117.70
66	D3	976	G	C4-N9-C1'	6.68	135.18	126.50
65	D2	204	C	C6-N1-C1'	-6.67	112.79	120.80
66	D3	1214	U	N1-C2-O2	6.65	127.45	122.80
32	CI	142	LEU	CA-CB-CG	6.64	130.58	115.30
66	D3	1674	C	N1-C2-O2	6.63	122.88	118.90
67	D4	266	C	C6-N1-C2	-6.61	117.66	120.30
66	D3	551	G	N3-C4-N9	6.59	129.96	126.00
66	D3	691	C	N1-C2-O2	6.57	122.84	118.90
66	D3	1158	C	C4-C5-C6	-6.55	114.12	117.40
65	D2	399	U	C5-C6-N1	6.55	125.97	122.70
66	D3	207	U	N3-C2-O2	-6.55	117.62	122.20
66	D3	260	U	C2-N1-C1'	6.52	125.52	117.70
66	D3	1729	C	N1-C2-O2	6.51	122.81	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
66	D3	545	A	O4'-C1'-N9	6.48	113.39	108.20
66	D3	1042	G	C5-C6-O6	6.48	132.49	128.60
66	D3	553	G	C4-N9-C1'	-6.47	118.09	126.50
66	D3	976	G	N3-C4-N9	6.47	129.88	126.00
66	D3	1513	G	C5-C6-O6	6.46	132.48	128.60
66	D3	335	U	N1-C2-O2	6.46	127.32	122.80
3	JA	763	LEU	CA-CB-CG	6.45	130.14	115.30
45	JN	94	PRO	N-CA-CB	6.45	111.04	103.30
66	D3	1072	C	C6-N1-C2	-6.45	117.72	120.30
67	D4	51	C	C2-N1-C1'	6.42	125.86	118.80
65	D2	443	G	O4'-C1'-N9	6.42	113.33	108.20
22	US	110	PRO	N-CA-CB	6.39	110.97	103.30
11	UH	309	PRO	N-CA-CB	6.39	110.97	103.30
65	D2	436	G	N3-C4-N9	6.38	129.83	126.00
66	D3	1692	G	C8-N9-C4	-6.38	103.85	106.40
65	D2	312	U	O4'-C1'-N1	6.38	113.30	108.20
66	D3	335	U	N3-C2-O2	-6.37	117.74	122.20
65	D2	267	U	C6-N1-C1'	-6.33	112.34	121.20
65	D2	184	U	C2-N1-C1'	6.32	125.29	117.70
65	D2	108	U	N3-C2-O2	-6.31	117.78	122.20
66	D3	1696	G	N3-C4-N9	-6.31	122.21	126.00
66	D3	689	G	N3-C4-N9	6.30	129.78	126.00
11	UH	325	PRO	N-CA-CB	6.27	110.83	103.30
66	D3	579	A	P-O3'-C3'	6.26	127.22	119.70
22	US	75	PRO	N-CA-CB	6.26	110.81	103.30
66	D3	1066	C	N3-C2-O2	-6.24	117.53	121.90
66	D3	343	C	C6-N1-C2	-6.24	117.80	120.30
66	D3	314	C	N3-C4-C5	-6.23	119.41	121.90
66	D3	1653	C	C6-N1-C2	-6.23	117.81	120.30
66	D3	276	C	N1-C2-O2	6.22	122.63	118.90
67	D4	153	C	N1-C2-O2	6.22	122.63	118.90
66	D3	956	C	N1-C2-O2	6.21	122.63	118.90
66	D3	956	C	N3-C2-O2	-6.21	117.56	121.90
66	D3	376	C	C2-N1-C1'	6.20	125.62	118.80
35	CL	119	GLU	C-N-CA	-6.18	106.25	121.70
11	UH	258	PRO	N-CA-CB	6.16	110.69	103.30
11	UH	235	PRO	N-CA-CB	6.16	110.69	103.30
65	D2	144	C	N3-C2-O2	-6.14	117.60	121.90
66	D3	551	G	C4-N9-C1'	6.13	134.47	126.50
11	UH	298	PRO	N-CA-CB	6.12	110.65	103.30
50	DF	162	VAL	C-N-CA	6.12	137.01	121.70
66	D3	355	G	C6-C5-N7	6.12	134.07	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
66	D3	584	C	C6-N1-C2	-6.12	117.85	120.30
66	D3	139	C	P-O3'-C3'	6.12	127.05	119.70
66	D3	1216	C	C6-N1-C2	-6.11	117.86	120.30
67	D4	153	C	C6-N1-C2	-6.10	117.86	120.30
65	D2	355	C	C6-N1-C1'	-6.09	113.50	120.80
23	UT	1399	LEU	CA-CB-CG	6.08	129.29	115.30
66	D3	355	G	N3-C4-N9	-6.08	122.35	126.00
65	D2	314	U	N3-C2-O2	-6.07	117.95	122.20
22	US	37	PRO	N-CA-CB	6.06	110.58	103.30
66	D3	1513	G	N1-C6-O6	-6.06	116.26	119.90
66	D3	335	U	C2-N1-C1'	6.05	124.97	117.70
66	D3	1060	U	C6-N1-C1'	-6.00	112.81	121.20
5	UB	412	PRO	N-CA-CB	5.98	110.48	103.30
66	D3	338	C	N1-C2-O2	5.98	122.49	118.90
66	D3	553	G	C8-N9-C4	-5.98	104.01	106.40
66	D3	553	G	C4-C5-N7	-5.97	108.41	110.80
66	D3	267	U	N3-C2-O2	-5.96	118.03	122.20
66	D3	546	U	C5-C6-N1	5.96	125.68	122.70
66	D3	959	U	N3-C2-O2	-5.95	118.03	122.20
66	D3	551	G	C8-N9-C1'	-5.95	119.27	127.00
66	D3	758	U	C2-N1-C1'	5.94	124.83	117.70
5	UB	201	PRO	N-CA-CB	5.94	110.42	103.30
7	UD	225	LEU	CA-CB-CG	5.93	128.94	115.30
66	D3	1652	C	N3-C2-O2	-5.92	117.75	121.90
66	D3	1540	G	N3-C4-N9	-5.92	122.45	126.00
66	D3	1620	C	C6-N1-C2	-5.91	117.94	120.30
5	UB	285	PRO	N-CA-CB	5.91	110.39	103.30
66	D3	532	U	N3-C2-O2	-5.91	118.06	122.20
66	D3	818	C	N3-C2-O2	-5.90	117.77	121.90
66	D3	584	C	C5-C4-N4	5.89	124.32	120.20
66	D3	1433	G	N3-C4-N9	5.89	129.53	126.00
65	D2	430	C	C6-N1-C2	-5.86	117.96	120.30
66	D3	355	G	C4-C5-N7	-5.85	108.46	110.80
66	D3	267	U	N1-C2-O2	5.84	126.89	122.80
3	JA	219	LEU	CA-CB-CG	5.84	128.73	115.30
7	UD	272	LEU	CA-CB-CG	5.83	128.72	115.30
66	D3	1729	C	C6-N1-C2	-5.83	117.97	120.30
66	D3	14	C	C6-N1-C1'	5.82	127.78	120.80
66	D3	1747	G	N3-C4-N9	5.82	129.49	126.00
22	US	279	LEU	CA-CB-CG	5.82	128.68	115.30
65	D2	267	U	C6-N1-C2	-5.81	117.51	121.00
67	D4	144	G	C5-C6-O6	5.81	132.09	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
66	D3	854	U	O4'-C1'-N1	5.81	112.85	108.20
66	D3	787	G	C4-N9-C1'	5.80	134.05	126.50
66	D3	795	U	C5-C6-N1	5.80	125.60	122.70
11	UH	316	PRO	N-CA-CB	5.79	110.25	103.30
66	D3	1696	G	N1-C2-N3	5.79	127.37	123.90
66	D3	691	C	C2-N1-C1'	5.78	125.16	118.80
66	D3	1433	G	N3-C4-C5	-5.78	125.71	128.60
66	D3	530	C	N3-C2-O2	-5.78	117.85	121.90
66	D3	166	C	C2-N1-C1'	5.76	125.14	118.80
66	D3	1614	A	O4'-C1'-N9	5.76	112.81	108.20
65	D2	108	U	C6-N1-C1'	-5.75	113.14	121.20
66	D3	1746	A	N1-C6-N6	-5.74	115.15	118.60
66	D3	1696	G	C8-N9-C4	-5.74	104.10	106.40
66	D3	818	C	N1-C2-O2	5.73	122.34	118.90
66	D3	1214	U	N3-C2-O2	-5.71	118.20	122.20
66	D3	276	C	N1-C2-N3	5.70	123.19	119.20
66	D3	1433	G	C8-N9-C1'	-5.70	119.59	127.00
66	D3	1706	C	O4'-C4'-C3'	-5.70	98.30	104.00
65	D2	144	C	C2-N1-C1'	5.70	125.07	118.80
65	D2	68	U	C2-N1-C1'	5.69	124.53	117.70
66	D3	1439	C	N1-C2-O2	5.69	122.31	118.90
66	D3	1754	A	N1-C6-N6	-5.68	115.19	118.60
66	D3	976	G	C2-N3-C4	5.67	114.74	111.90
66	D3	97	C	N1-C2-O2	5.67	122.30	118.90
66	D3	530	C	C6-N1-C2	-5.67	118.03	120.30
67	D4	265	C	N1-C2-O2	5.65	122.29	118.90
66	D3	0	U	P-O3'-C3'	5.65	126.48	119.70
65	D2	184	U	N1-C2-O2	5.65	126.75	122.80
66	D3	1072	C	C2-N1-C1'	5.65	125.01	118.80
66	D3	1066	C	N1-C2-O2	5.64	122.28	118.90
66	D3	58	U	N3-C2-O2	-5.63	118.26	122.20
66	D3	1594	G	P-O3'-C3'	5.63	126.46	119.70
66	D3	873	U	N1-C2-O2	5.62	126.73	122.80
66	D3	1056	U	N1-C2-O2	5.62	126.73	122.80
66	D3	758	U	N1-C2-O2	5.61	126.73	122.80
67	D4	144	G	N1-C6-O6	-5.61	116.53	119.90
66	D3	1492	A	N7-C8-N9	5.60	116.60	113.80
66	D3	1057	U	P-O3'-C3'	5.59	126.41	119.70
65	D2	430	C	N1-C2-O2	5.59	122.25	118.90
66	D3	530	C	N1-C2-O2	5.59	122.25	118.90
66	D3	1628	U	C5-C4-O4	-5.58	122.55	125.90
13	UJ	1504	LEU	CA-CB-CG	5.58	128.14	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
66	D3	189	C	N3-C2-O2	-5.57	118.00	121.90
66	D3	1077	C	N1-C2-O2	5.57	122.24	118.90
66	D3	14	C	C6-N1-C2	-5.57	118.07	120.30
66	D3	166	C	N3-C2-O2	-5.56	118.00	121.90
66	D3	1044	U	N3-C2-O2	-5.56	118.31	122.20
66	D3	1164	G	C6-N1-C2	-5.56	121.77	125.10
66	D3	912	U	P-O3'-C3'	5.54	126.35	119.70
16	UM	297	LEU	CA-CB-CG	5.54	128.04	115.30
65	D2	68	U	N3-C2-O2	-5.53	118.33	122.20
66	D3	1672	G	N3-C4-N9	5.53	129.32	126.00
66	D3	1111	G	N3-C4-N9	5.52	129.31	126.00
51	DG	106	LEU	CA-CB-CG	5.51	127.98	115.30
65	D2	123	C	N1-C2-O2	5.51	122.21	118.90
66	D3	553	G	O4'-C1'-N9	5.51	112.61	108.20
67	D4	157	A	P-O3'-C3'	5.50	126.30	119.70
65	D2	369	G	C6-C5-N7	-5.50	127.10	130.40
66	D3	189	C	C5-C6-N1	5.49	123.75	121.00
66	D3	1123	C	N1-C2-O2	5.48	122.19	118.90
66	D3	14	C	N1-C2-N3	5.48	123.04	119.20
66	D3	584	C	C6-N1-C1'	5.48	127.38	120.80
23	UT	591	LEU	CA-CB-CG	5.48	127.90	115.30
66	D3	1056	U	C2-N1-C1'	5.47	124.27	117.70
66	D3	1652	C	C2-N1-C1'	5.47	124.82	118.80
66	D3	338	C	C6-N1-C1'	-5.47	114.23	120.80
20	UQ	136	LEU	CA-CB-CG	5.47	127.87	115.30
66	D3	1573	A	P-O3'-C3'	5.47	126.26	119.70
4	UA	450	LEU	CA-CB-CG	5.46	127.87	115.30
66	D3	1059	U	C2-N1-C1'	5.46	124.26	117.70
67	D4	168	C	N1-C2-N3	5.46	123.02	119.20
66	D3	1437	U	N1-C2-O2	5.46	126.62	122.80
66	D3	1214	U	C2-N1-C1'	5.45	124.25	117.70
66	D3	1585	U	C5-C6-N1	5.45	125.42	122.70
65	D2	156	U	C2-N1-C1'	-5.44	111.17	117.70
66	D3	6	G	O4'-C1'-N9	-5.44	103.85	108.20
66	D3	190	C	C5-C6-N1	5.42	123.71	121.00
67	D4	161	G	C5-C6-O6	5.42	131.85	128.60
65	D2	390	C	N3-C2-O2	-5.42	118.11	121.90
13	UJ	81	LEU	CA-CB-CG	5.41	127.74	115.30
66	D3	795	U	C6-N1-C1'	-5.41	113.63	121.20
7	UD	774	LEU	CA-CB-CG	5.40	127.72	115.30
66	D3	453	U	N3-C2-O2	-5.40	118.42	122.20
65	D2	68	U	N1-C2-O2	5.39	126.58	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
66	D3	278	U	P-O3'-C3'	5.39	126.17	119.70
66	D3	586	G	P-O3'-C3'	5.39	126.17	119.70
66	D3	411	C	C5-C6-N1	5.38	123.69	121.00
66	D3	1220	C	C2-N1-C1'	5.38	124.72	118.80
66	D3	207	U	C6-N1-C1'	-5.38	113.68	121.20
65	D2	369	G	N3-C4-C5	-5.37	125.92	128.60
66	D3	355	G	C8-N9-C4	-5.37	104.25	106.40
66	D3	309	C	N1-C2-O2	5.36	122.12	118.90
66	D3	1654	G	N9-C4-C5	-5.36	103.25	105.40
66	D3	107	C	C2-N1-C1'	5.36	124.70	118.80
66	D3	417	A	P-O3'-C3'	5.36	126.13	119.70
66	D3	976	G	C8-N9-C1'	-5.35	120.04	127.00
66	D3	539	G	O4'-C1'-N9	5.35	112.48	108.20
67	D4	51	C	C6-N1-C1'	-5.34	114.39	120.80
66	D3	267	U	C2-N1-C1'	5.33	124.10	117.70
65	D2	395	C	C2-N1-C1'	5.33	124.66	118.80
65	D2	417	C	N1-C2-O2	5.32	122.09	118.90
23	UT	292	LEU	CA-CB-CG	5.31	127.51	115.30
66	D3	376	C	N1-C2-O2	5.31	122.09	118.90
66	D3	355	G	N3-C2-N2	-5.30	116.19	119.90
66	D3	275	C	N1-C2-O2	5.30	122.08	118.90
66	D3	551	G	C6-C5-N7	-5.29	127.23	130.40
66	D3	329	G	N3-C4-N9	5.26	129.16	126.00
67	D4	154	C	C5-C6-N1	5.26	123.63	121.00
28	CD	7	LEU	CA-CB-CG	5.26	127.40	115.30
66	D3	350	U	N1-C2-O2	5.26	126.48	122.80
66	D3	648	G	N3-C4-N9	5.26	129.16	126.00
66	D3	260	U	N1-C2-O2	5.26	126.48	122.80
66	D3	873	U	C2-N1-C1'	5.25	124.00	117.70
66	D3	1620	C	P-O3'-C3'	5.25	126.00	119.70
66	D3	1653	C	N1-C2-N3	5.25	122.87	119.20
66	D3	489	C	C6-N1-C2	-5.25	118.20	120.30
66	D3	1629	G	N1-C2-N2	-5.25	111.48	116.20
66	D3	1674	C	C2-N1-C1'	5.25	124.57	118.80
66	D3	782	U	P-O3'-C3'	5.25	125.99	119.70
20	UQ	356	LEU	CA-CB-CG	5.24	127.36	115.30
67	D4	308	U	N1-C2-O2	5.24	126.47	122.80
66	D3	326	G	N3-C4-N9	-5.24	122.86	126.00
65	D2	274	C	N3-C2-O2	-5.23	118.24	121.90
23	UT	1345	LEU	CA-CB-CG	5.23	127.32	115.30
66	D3	376	C	C5-C6-N1	5.23	123.61	121.00
66	D3	1494	C	N3-C2-O2	-5.22	118.24	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
66	D3	758	U	C5-C6-N1	5.22	125.31	122.70
66	D3	691	C	C5-C6-N1	5.22	123.61	121.00
65	D2	82	A	OP2-P-O3'	5.22	116.67	105.20
67	D4	75	C	C5-C6-N1	5.21	123.60	121.00
66	D3	1779	U	N3-C2-O2	-5.20	118.56	122.20
66	D3	1657	U	P-O3'-C3'	5.20	125.94	119.70
66	D3	695	U	C2-N1-C1'	5.19	123.93	117.70
66	D3	97	C	N3-C2-O2	-5.19	118.27	121.90
65	D2	369	G	C4-N9-C1'	5.18	133.23	126.50
65	D2	391	C	N1-C2-O2	5.17	122.00	118.90
66	D3	787	G	C8-N9-C1'	-5.17	120.28	127.00
66	D3	1540	G	N9-C4-C5	5.17	107.47	105.40
66	D3	283	U	N1-C2-O2	5.16	126.41	122.80
66	D3	1437	U	C2-N1-C1'	5.16	123.89	117.70
67	D4	168	C	C5-C4-N4	5.16	123.81	120.20
66	D3	1692	G	N1-C2-N2	5.15	120.84	116.20
66	D3	309	C	N3-C2-O2	-5.15	118.30	121.90
66	D3	683	C	C6-N1-C2	-5.13	118.25	120.30
4	UA	465	LEU	CA-CB-CG	5.13	127.10	115.30
66	D3	166	C	C6-N1-C2	-5.13	118.25	120.30
66	D3	1783	C	C2-N1-C1'	5.11	124.42	118.80
66	D3	1591	C	N1-C2-O2	5.11	121.96	118.90
66	D3	1448	G	N1-C6-O6	-5.10	116.84	119.90
66	D3	1495	C	C6-N1-C2	-5.10	118.26	120.30
66	D3	531	C	C6-N1-C2	-5.09	118.26	120.30
67	D4	18	G	C8-N9-C1'	5.09	133.61	127.00
66	D3	317	C	N1-C2-O2	5.08	121.95	118.90
25	UV	308	LEU	CA-CB-CG	5.08	126.98	115.30
65	D2	123	C	C2-N1-C1'	5.08	124.39	118.80
66	D3	343	C	N1-C2-N3	5.08	122.75	119.20
66	D3	25	C	C6-N1-C2	-5.07	118.27	120.30
66	D3	479	C	N3-C2-O2	-5.07	118.35	121.90
66	D3	1696	G	N1-C2-N2	-5.07	111.64	116.20
66	D3	493	U	C5-C6-N1	5.07	125.23	122.70
66	D3	873	U	N3-C2-O2	-5.07	118.65	122.20
66	D3	1628	U	C2-N1-C1'	5.07	123.78	117.70
66	D3	1175	U	N3-C2-O2	-5.07	118.65	122.20
66	D3	958	U	C2-N3-C4	-5.06	123.96	127.00
66	D3	627	C	C2-N1-C1'	5.06	124.36	118.80
9	UF	205	LEU	CA-CB-CG	5.05	126.92	115.30
66	D3	960	U	N3-C2-O2	-5.05	118.66	122.20
66	D3	1657	U	OP2-P-O3'	5.05	116.31	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
66	D3	117	U	N3-C2-O2	-5.04	118.67	122.20
66	D3	283	U	C2-N1-C1'	5.04	123.75	117.70
66	D3	1036	A	O4'-C1'-N9	5.04	112.23	108.20
66	D3	1540	G	C8-N9-C1'	5.03	133.54	127.00
67	D4	55	A	N1-C2-N3	5.02	131.81	129.30
66	D3	1739	C	C6-N1-C2	-5.02	118.29	120.30
23	UT	1632	LEU	CA-CB-CG	5.01	126.83	115.30
66	D3	1044	U	N1-C2-O2	5.01	126.31	122.80
66	D3	339	C	C6-N1-C2	-5.01	118.30	120.30

There are no chirality outliers.

All (23) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
28	CD	240	LEU	Peptide
31	CH	340	GLY	Peptide
34	CK	453	SER	Peptide
58	DQ	12	LYS	Peptide
3	JA	46	SER	Peptide
46	JO	191	MET	Peptide
47	JP	102	GLU	Peptide
47	JP	301	PHE	Peptide
4	UA	289	LEU	Peptide
11	UH	532	PHE	Peptide
15	UL	183	ASP	Peptide
15	UL	552	ASP	Peptide
16	UM	218	ASP	Peptide
16	UM	421	SER	Peptide
16	UM	457	ALA	Peptide
16	UM	529	LEU	Peptide
16	UM	530	ALA	Peptide
16	UM	705	SER	Peptide
17	UN	312	ILE	Peptide
23	UT	1926	PHE	Peptide
23	UT	706	LEU	Peptide
24	UU	857	PRO	Peptide
25	UV	697	SER	Peptide

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	CA	1881	0	1928	25	0
1	CB	1782	0	1826	29	0
2	DA	1912	0	2023	35	0
3	JA	5916	0	5463	134	0
3	JB	4132	0	1819	12	0
4	UA	6635	0	6525	107	0
5	UB	3734	0	3432	50	0
6	UC	1026	0	1080	18	0
7	UD	5361	0	5364	119	0
8	UE	3772	0	3806	72	0
9	UF	2487	0	2533	36	0
10	UG	4218	0	4222	58	0
11	UH	2701	0	1951	53	0
12	UI	860	0	922	14	0
13	UJ	8961	0	9273	179	0
14	UK	2021	0	2098	31	0
15	UL	6726	0	6764	121	0
16	UM	5969	0	6006	114	0
17	UN	1227	0	1223	20	0
18	UO	3911	0	3906	76	0
19	UP	495	0	561	13	0
20	UQ	6662	0	6588	137	0
21	UR	3799	0	3783	60	0
22	US	3622	0	3214	69	0
23	UT	17290	0	16616	374	0
24	UU	6678	0	6652	98	0
25	UV	8736	0	8850	160	0
26	UX	1395	0	1473	24	0
27	UZ	2006	0	2118	37	0
28	CD	2994	0	3018	41	0
29	CE	3325	0	3414	52	0
30	CF	931	0	983	7	0
30	CG	928	0	976	20	0
31	CH	3725	0	3746	49	0
32	CI	1530	0	1572	29	0
33	CJ	2296	0	2325	42	0
34	CK	1667	0	1701	28	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
35	CL	6332	0	6515	139	0
36	CM	2781	0	2878	35	0
37	CN	1893	0	1875	35	0
38	JC	2845	0	2761	85	0
39	JF	1701	0	1767	22	0
39	JG	1799	0	1872	44	0
40	JH	1295	0	570	3	0
41	JI	1314	0	610	0	0
42	JJ	1442	0	1513	28	0
43	JK	334	0	313	11	0
44	JM	1137	0	1188	22	0
45	JN	1428	0	1425	19	0
46	JO	1876	0	1968	22	0
47	JP	3765	0	3714	65	0
48	JQ	381	0	255	5	0
49	DE	1944	0	2030	43	0
50	DF	1669	0	1723	21	0
51	DG	1755	0	1846	47	0
52	DH	1481	0	1572	42	0
53	DI	1399	0	1431	40	0
54	DJ	1494	0	1573	17	0
55	DL	1129	0	1196	31	0
56	DN	1192	0	1255	17	0
57	DO	881	0	910	24	0
58	DQ	973	0	1029	14	0
59	DS	516	0	222	1	0
60	DW	1021	0	1060	13	0
61	DX	786	0	843	14	0
62	DY	1073	0	1132	24	0
63	Db	610	0	631	0	0
64	Dc	497	0	535	0	0
65	D2	9508	0	4781	119	0
66	D3	28287	0	14259	496	0
67	D4	4872	0	2469	65	0
68	Db	1	0	0	0	0
68	UX	1	0	0	0	0
69	CL	1	0	0	0	0
69	UX	1	0	0	0	0
70	CL	32	0	12	26	0
All	All	234757	0	209487	3712	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 8.

All (3712) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:CL:210:VAL:HG21	70:CL:2001:GTP:C5	1.53	1.43
35:CL:210:VAL:CG2	70:CL:2001:GTP:C5	2.05	1.39
52:DH:27:LEU:CD2	52:DH:84:LYS:NZ	1.88	1.35
4:UA:77:GLY:HA3	4:UA:95:PHE:O	1.30	1.32
10:UG:132:GLY:HA3	10:UG:150:LEU:O	1.20	1.30
35:CL:286:THR:O	35:CL:297:SER:HA	1.15	1.30
11:UH:341:LEU:HA	11:UH:358:VAL:O	1.13	1.27
35:CL:81:GLY:HA2	70:CL:2001:GTP:O1A	1.30	1.27
52:DH:27:LEU:CD2	52:DH:84:LYS:HZ1	1.46	1.25
66:D3:1654:G:N2	66:D3:1746:A:H62	1.35	1.24
66:D3:1654:G:H21	66:D3:1746:A:N6	1.36	1.23
24:UU:228:GLY:HA3	24:UU:246:ILE:O	1.08	1.21
11:UH:520:PRO:CG	11:UH:523:LEU:HD12	1.71	1.19
21:UR:382:GLY:HA3	21:UR:400:ILE:O	1.43	1.18
52:DH:27:LEU:HD23	52:DH:84:LYS:NZ	1.52	1.17
35:CL:210:VAL:HG21	70:CL:2001:GTP:N7	1.57	1.17
35:CL:81:GLY:CA	70:CL:2001:GTP:O1A	1.93	1.16
66:D3:1541:G:N2	66:D3:1570:A:C6	2.13	1.16
16:UM:30:LYS:HA	16:UM:45:LEU:O	1.44	1.15
66:D3:1541:G:C2	66:D3:1570:A:N6	2.14	1.15
11:UH:520:PRO:HG2	11:UH:523:LEU:CG	1.76	1.15
66:D3:1689:A:N6	66:D3:1713:G:C2	2.15	1.14
11:UH:520:PRO:HG2	11:UH:523:LEU:HG	1.26	1.10
35:CL:210:VAL:HG23	70:CL:2001:GTP:C6	1.87	1.10
52:DH:27:LEU:HD21	52:DH:84:LYS:HZ2	0.95	1.10
52:DH:27:LEU:HD21	52:DH:84:LYS:NZ	1.56	1.10
66:D3:1043:A:H61	66:D3:1075:C:N4	1.47	1.09
66:D3:1655:A:N6	66:D3:1745:G:H1	1.50	1.08
8:UE:244:ILE:O	8:UE:255:ILE:HA	1.53	1.06
66:D3:1541:G:N2	66:D3:1569:A:C6	2.24	1.06
35:CL:286:THR:O	35:CL:297:SER:CA	2.03	1.06
67:D4:95:A:N6	67:D4:321:C:H42	1.54	1.05
66:D3:1646:C:N4	66:D3:1754:A:H61	1.54	1.05
35:CL:82:LYS:HG2	70:CL:2001:GTP:O1B	1.55	1.05
66:D3:1677:C:N4	66:D3:1724:U:H3	1.54	1.04
11:UH:520:PRO:HG3	11:UH:523:LEU:HD12	1.36	1.04
24:UU:228:GLY:CA	24:UU:246:ILE:O	2.04	1.03
67:D4:95:A:H61	67:D4:321:C:N4	1.53	1.03
18:UO:279:GLY:HA3	18:UO:298:PHE:O	1.59	1.03
66:D3:118:U:H3	66:D3:298:C:N4	1.56	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:D3:1043:A:N6	66:D3:1075:C:H42	1.57	1.01
11:UH:520:PRO:CG	11:UH:523:LEU:CD1	2.39	1.01
65:D2:467:A:H61	67:D4:49:C:N4	1.58	1.01
66:D3:1646:C:H42	66:D3:1754:A:N6	1.59	1.01
66:D3:105:A:H62	66:D3:308:C:N4	1.59	1.00
4:UA:77:GLY:CA	4:UA:95:PHE:O	2.10	1.00
66:D3:1541:G:C2	66:D3:1569:A:N6	2.31	0.99
66:D3:269:G:O6	66:D3:287:G:C6	2.16	0.98
23:UT:1090:ARG:O	23:UT:1094:PHE:HB2	1.61	0.98
52:DH:27:LEU:HD23	52:DH:84:LYS:HZ1	0.84	0.98
11:UH:341:LEU:CA	11:UH:358:VAL:O	2.10	0.98
66:D3:105:A:H62	66:D3:308:C:H42	0.99	0.96
35:CL:82:LYS:N	70:CL:2001:GTP:O1B	1.98	0.96
66:D3:273:G:H1	66:D3:283:U:H3	0.98	0.96
67:D4:205:G:N1	67:D4:245:U:C2	2.33	0.96
22:US:146:LYS:HG2	22:US:149:ARG:HH21	1.27	0.96
65:D2:467:A:H61	67:D4:49:C:H42	1.11	0.95
35:CL:210:VAL:HG23	70:CL:2001:GTP:C5	1.96	0.95
25:UV:143:GLU:HA	25:UV:176:PHE:O	1.67	0.94
66:D3:895:G:H1	66:D3:917:U:H3	0.97	0.94
35:CL:210:VAL:HG21	70:CL:2001:GTP:C8	2.02	0.94
10:UG:132:GLY:CA	10:UG:150:LEU:O	2.15	0.94
22:US:146:LYS:HE3	65:D2:124:A:H4'	1.47	0.93
35:CL:81:GLY:C	70:CL:2001:GTP:O1A	2.04	0.93
11:UH:520:PRO:HD2	11:UH:523:LEU:HB2	1.47	0.93
66:D3:271:A:N1	66:D3:285:G:C6	2.37	0.93
66:D3:1655:A:H61	66:D3:1745:G:H1	1.10	0.93
65:D2:467:A:N6	67:D4:49:C:H42	1.66	0.92
52:DH:27:LEU:CD2	52:DH:84:LYS:HZ2	1.64	0.92
35:CL:210:VAL:HG21	70:CL:2001:GTP:C4	2.03	0.92
66:D3:625:C:H42	66:D3:974:A:H61	1.04	0.91
66:D3:625:C:H42	66:D3:974:A:N6	1.68	0.91
65:D2:182:G:H1	65:D2:215:U:H3	0.93	0.90
66:D3:625:C:N4	66:D3:974:A:H61	1.69	0.89
35:CL:210:VAL:CG2	70:CL:2001:GTP:N7	2.26	0.89
11:UH:520:PRO:CD	11:UH:523:LEU:HD12	2.03	0.89
38:JC:189:ASN:O	38:JC:193:GLY:HA2	1.73	0.89
1:CB:125:VAL:O	1:CB:138:LYS:HA	1.73	0.88
7:UD:354:LYS:O	7:UD:374:THR:HA	1.75	0.87
65:D2:178:G:H1	65:D2:219:U:H3	0.88	0.87
11:UH:520:PRO:CD	11:UH:523:LEU:HB2	2.05	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:UM:30:LYS:CA	16:UM:45:LEU:O	2.22	0.87
11:UH:520:PRO:HG3	11:UH:523:LEU:CD1	2.03	0.87
66:D3:1689:A:C6	66:D3:1713:G:C2	2.62	0.87
66:D3:105:A:N6	66:D3:308:C:H42	1.72	0.86
66:D3:540:G:C2	66:D3:542:A:N6	2.43	0.86
66:D3:175:G:N2	66:D3:266:A:C4	2.44	0.86
66:D3:1699:G:H21	66:D3:1702:A:N6	1.74	0.86
66:D3:1541:G:C2	66:D3:1570:A:C6	2.58	0.85
66:D3:1270:G:N2	66:D3:1441:C:C2	2.45	0.85
11:UH:520:PRO:CG	11:UH:523:LEU:CG	2.54	0.85
66:D3:1699:G:H21	66:D3:1702:A:H62	1.24	0.84
35:CL:81:GLY:HA2	70:CL:2001:GTP:PA	2.17	0.84
7:UD:116:SER:HG	7:UD:126:TRP:HE1	1.25	0.84
18:UO:279:GLY:CA	18:UO:298:PHE:O	2.26	0.83
66:D3:540:G:N2	66:D3:542:A:H62	1.75	0.83
35:CL:210:VAL:CG2	70:CL:2001:GTP:C6	2.53	0.83
7:UD:397:SER:O	7:UD:421:THR:HA	1.79	0.82
60:DW:2:THR:N	66:D3:967:A:HO2'	1.78	0.82
21:UR:382:GLY:CA	21:UR:400:ILE:O	2.28	0.82
66:D3:331:A:H61	66:D3:338:C:N4	1.78	0.82
66:D3:48:G:C6	66:D3:432:G:N2	2.48	0.81
66:D3:153:G:H1	66:D3:161:U:H3	0.85	0.81
24:UU:484:ILE:O	24:UU:497:LYS:HA	1.79	0.81
66:D3:118:U:H3	66:D3:298:C:H42	0.81	0.81
33:CJ:29:ARG:HD3	33:CJ:59:ASP:HB3	1.62	0.80
66:D3:331:A:N6	66:D3:338:C:H42	1.80	0.80
66:D3:1689:A:N6	66:D3:1713:G:N2	2.30	0.80
66:D3:175:G:C2	66:D3:266:A:C5	2.70	0.79
66:D3:1043:A:H61	66:D3:1075:C:H42	0.83	0.79
66:D3:1655:A:N6	66:D3:1745:G:N1	2.24	0.79
66:D3:1541:G:N2	66:D3:1570:A:N6	2.27	0.78
66:D3:540:G:N2	66:D3:542:A:N6	2.32	0.78
66:D3:1689:A:C6	66:D3:1713:G:N2	2.51	0.78
65:D2:184:U:H3	65:D2:213:G:H1	0.82	0.78
66:D3:175:G:N2	66:D3:266:A:C5	2.52	0.78
66:D3:1646:C:H42	66:D3:1754:A:H61	0.80	0.78
67:D4:154:C:O2	67:D4:160:G:N2	2.17	0.78
23:UT:302:PHE:O	23:UT:306:LEU:HB3	1.84	0.77
66:D3:269:G:C6	66:D3:287:G:C6	2.72	0.77
37:CN:169:VAL:O	37:CN:173:LYS:HB2	1.85	0.77
66:D3:410:A:H2	66:D3:423:G:H1	1.30	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:D3:39:A:H5''	66:D3:39:A:H8	1.50	0.77
66:D3:69:G:O6	66:D3:83:G:C2	2.37	0.76
67:D4:154:C:N3	67:D4:160:G:N1	2.33	0.76
66:D3:1699:G:N2	66:D3:1702:A:H62	1.82	0.76
66:D3:1061:A:H2'	66:D3:1062:A:H4'	1.67	0.76
51:DG:2:LYS:HB3	51:DG:108:VAL:HG12	1.66	0.76
66:D3:58:U:O2	66:D3:452:A:N7	2.19	0.75
35:CL:82:LYS:CG	70:CL:2001:GTP:O1B	2.34	0.75
66:D3:1775:U:H3	66:D3:1786:G:H1	0.81	0.75
67:D4:95:A:H61	67:D4:321:C:H42	0.80	0.75
23:UT:1710:LEU:O	23:UT:1714:SER:HB3	1.88	0.74
35:CL:72:VAL:HG12	35:CL:137:LEU:HB3	1.67	0.74
20:UQ:875:MET:O	20:UQ:879:ILE:HB	1.88	0.74
24:UU:125:GLY:HA2	29:CE:430:ASP:HA	1.68	0.74
3:JA:587:GLN:HB3	3:JA:637:ARG:HB3	1.69	0.74
66:D3:1689:A:N6	66:D3:1713:G:N1	2.35	0.74
10:UG:187:LEU:HA	32:CI:23:GLN:HE22	1.53	0.74
29:CE:28:LEU:HD12	29:CE:33:ASP:HB2	1.70	0.74
8:UE:246:VAL:O	8:UE:253:LEU:HA	1.88	0.73
16:UM:414:VAL:HB	16:UM:428:ALA:HB3	1.70	0.73
3:JB:282:THR:O	3:JB:469:SER:HA	1.88	0.73
7:UD:97:ARG:HH12	19:UP:190:LEU:HD13	1.53	0.73
58:DQ:94:GLN:HB2	58:DQ:102:LYS:HG3	1.70	0.73
35:CL:156:LEU:HD13	35:CL:197:GLU:HG2	1.70	0.73
18:UO:108:TYR:HB3	18:UO:117:LEU:H	1.53	0.72
22:US:146:LYS:HG2	22:US:149:ARG:NH2	2.02	0.72
27:UZ:103:VAL:HG21	27:UZ:131:VAL:HG11	1.71	0.72
54:DJ:126:ARG:NH1	66:D3:475:A:OP2	2.22	0.72
2:DA:141:ALA:HA	2:DA:209:ASN:O	1.90	0.71
66:D3:1541:G:N1	66:D3:1570:A:N6	2.37	0.71
23:UT:2086:ILE:O	23:UT:2090:ALA:HB2	1.90	0.71
30:CF:38:ASN:ND2	67:D4:82:G:N7	2.38	0.71
13:UJ:1606:LYS:HA	13:UJ:1609:ILE:HD12	1.73	0.71
9:UF:11:CYS:SG	9:UF:36:ARG:NH2	2.64	0.71
11:UH:520:PRO:HD3	11:UH:523:LEU:HD12	1.72	0.71
33:CJ:35:ALA:O	33:CJ:39:GLY:HA2	1.91	0.71
66:D3:48:G:C6	66:D3:432:G:C2	2.78	0.71
10:UG:183:GLU:OE2	32:CI:41:ARG:NH2	2.23	0.71
23:UT:436:PHE:HA	23:UT:439:VAL:HG12	1.71	0.70
35:CL:293:VAL:HG13	35:CL:1022:LEU:HD21	1.73	0.70
49:DE:178:GLY:H	49:DE:195:ILE:HG13	1.55	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:D3:821:U:O2	66:D3:852:C:N3	2.24	0.70
66:D3:634:G:C2	66:D3:966:A:C6	2.80	0.70
4:UA:577:SER:HB2	4:UA:598:ASN:HB3	1.72	0.70
66:D3:331:A:N6	66:D3:338:C:N4	2.38	0.70
39:JG:44:VAL:HG12	39:JG:113:TYR:HB2	1.74	0.70
4:UA:482:SER:O	4:UA:486:SER:HA	1.92	0.70
24:UU:392:ARG:NH2	67:D4:64:A:OP2	2.24	0.69
52:DH:80:GLU:O	52:DH:84:LYS:HG2	1.92	0.69
66:D3:271:A:C2	66:D3:285:G:C2	2.80	0.69
13:UJ:684:TYR:O	13:UJ:688:PHE:HB2	1.93	0.69
28:CD:100:ILE:HG22	28:CD:102:ASP:H	1.56	0.69
4:UA:430:ARG:HD2	34:CK:460:PRO:HA	1.73	0.69
57:DO:124:ASP:OD2	66:D3:885:G:N2	2.26	0.69
21:UR:436:ASP:HB3	21:UR:444:ILE:HD11	1.75	0.69
65:D2:24:U:N3	65:D2:56:G:N1	2.41	0.69
3:JA:25:ILE:O	3:JA:198:CYS:HA	1.93	0.69
4:UA:582:THR:HG21	4:UA:683:SER:HA	1.75	0.69
13:UJ:1397:GLN:HA	13:UJ:1400:ILE:HD12	1.75	0.69
32:CI:29:ASP:OD2	32:CI:41:ARG:NH1	2.25	0.69
49:DE:100:ARG:HG3	49:DE:114:ILE:HG13	1.75	0.69
50:DF:157:ARG:HB2	50:DF:224:ASN:HD21	1.58	0.69
8:UE:126:PHE:HB2	8:UE:140:PHE:HB3	1.73	0.69
33:CJ:223:THR:O	33:CJ:233:VAL:HA	1.92	0.69
66:D3:654:C:H42	66:D3:680:U:H3	1.41	0.68
7:UD:265:TRP:HA	7:UD:272:LEU:HA	1.74	0.68
24:UU:59:GLN:HG2	24:UU:71:VAL:HG23	1.74	0.68
4:UA:35:ASN:HD21	4:UA:620:ASN:HB2	1.57	0.68
25:UV:238:HIS:HA	25:UV:241:ILE:HD12	1.75	0.68
23:UT:276:SER:HB2	23:UT:320:THR:HG21	1.75	0.68
23:UT:437:LEU:O	23:UT:764:ARG:NH1	2.25	0.68
3:JA:548:ASN:HD21	3:JA:637:ARG:HH12	1.41	0.68
23:UT:1899:LEU:HD12	23:UT:1914:THR:HG23	1.76	0.68
30:CG:33:LEU:HD11	30:CG:100:ALA:HB1	1.75	0.68
47:JP:140:SER:OG	47:JP:141:ASP:N	2.26	0.68
47:JP:273:GLU:OE1	47:JP:276:ASN:ND2	2.27	0.68
23:UT:1951:THR:HG21	23:UT:1986:VAL:HG12	1.75	0.68
53:DI:172:ARG:HE	53:DI:175:GLN:HG3	1.59	0.67
65:D2:2:U:HO2'	65:D2:69:U:HO2'	1.38	0.67
15:UL:300:GLU:HA	15:UL:303:LEU:HD12	1.74	0.67
23:UT:1957:GLN:HG2	23:UT:1998:LEU:HB2	1.76	0.67
26:UX:149:LYS:HA	26:UX:170:ILE:HD11	1.75	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:UQ:325:GLN:NE2	21:UR:346:TYR:O	2.28	0.67
22:US:479:THR:HA	22:US:482:LYS:HD2	1.76	0.67
67:D4:154:C:C2	67:D4:160:G:N2	2.62	0.67
20:UQ:118:VAL:HB	20:UQ:130:LYS:HB2	1.76	0.67
66:D3:479:C:O2	66:D3:510:G:N2	2.28	0.67
66:D3:1541:G:N1	66:D3:1569:A:N6	2.42	0.67
1:CA:236:MET:HG3	28:CD:133:LEU:HA	1.75	0.67
23:UT:1632:LEU:HD23	23:UT:1633:PRO:HD3	1.77	0.67
27:UZ:77:LYS:HD2	27:UZ:130:ARG:HD2	1.76	0.67
39:JG:164:LYS:HB2	66:D3:1575:G:H5'	1.76	0.67
27:UZ:142:ARG:HH22	66:D3:1513:G:H3'	1.60	0.67
36:CM:306:GLU:HA	36:CM:356:GLY:O	1.95	0.67
4:UA:538:GLN:NE2	4:UA:554:ASP:OD1	2.28	0.67
21:UR:426:VAL:HG22	21:UR:432:VAL:HG22	1.77	0.66
32:CI:138:VAL:HG22	32:CI:158:VAL:HG12	1.76	0.66
39:JG:100:LEU:HD12	39:JG:130:ILE:HD11	1.77	0.66
10:UG:108:LEU:HD21	13:UJ:4:LEU:HD13	1.78	0.66
43:JK:485:TRP:HB2	43:JK:490:ILE:HD11	1.78	0.66
45:JN:265:SER:O	45:JN:273:ARG:NH1	2.28	0.66
3:JA:747:LEU:O	3:JA:749:GLN:NE2	2.28	0.66
44:JM:114:ARG:O	44:JM:118:GLN:HB3	1.96	0.66
66:D3:1276:U:N3	66:D3:1433:G:C6	2.64	0.66
16:UM:348:PRO:HD2	16:UM:419:GLU:HG3	1.77	0.66
23:UT:1244:LEU:HD11	23:UT:1280:LEU:HD13	1.75	0.66
25:UV:403:GLY:HA2	25:UV:410:LYS:HA	1.77	0.66
15:UL:17:ILE:HB	15:UL:360:ASN:HB3	1.78	0.66
15:UL:424:CYS:SG	15:UL:425:ILE:N	2.68	0.66
23:UT:497:ILE:HA	23:UT:500:LEU:HD12	1.77	0.66
38:JC:206:PHE:HB2	38:JC:216:SER:HB3	1.77	0.66
53:DI:8:ARG:HH22	66:D3:106:U:H5'	1.59	0.66
8:UE:447:SER:OG	8:UE:448:ASN:N	2.28	0.66
66:D3:269:G:C6	66:D3:287:G:N1	2.63	0.66
10:UG:386:PHE:O	47:JP:8:ARG:NH2	2.29	0.66
23:UT:1671:VAL:HG22	23:UT:1713:SER:HB2	1.76	0.66
35:CL:1021:LEU:HA	35:CL:1026:LYS:HG2	1.78	0.66
36:CM:155:LYS:HE3	36:CM:165:GLU:HG3	1.77	0.66
15:UL:137:ILE:HG23	15:UL:147:VAL:HG22	1.77	0.66
65:D2:467:A:N6	67:D4:49:C:N4	2.33	0.66
10:UG:152:GLU:HB3	10:UG:171:LYS:HB2	1.77	0.65
33:CJ:60:GLN:OE1	45:JN:207:ARG:NH1	2.29	0.65
49:DE:212:ASP:O	49:DE:215:ASP:N	2.28	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:JA:16:ASN:HD21	3:JA:218:PRO:HA	1.60	0.65
18:UO:86:SER:O	18:UO:98:ALA:HA	1.95	0.65
28:CD:198:TRP:NE1	29:CE:162:MET:SD	2.67	0.65
39:JG:104:ILE:HG23	39:JG:110:LEU:HD22	1.78	0.65
3:JA:82:LYS:HB3	62:DY:114:ARG:HD3	1.77	0.65
7:UD:37:ARG:HD2	7:UD:756:GLU:HB2	1.78	0.65
7:UD:157:SER:HG	7:UD:195:TRP:HE1	1.43	0.65
23:UT:38:VAL:HG21	23:UT:53:GLN:HG3	1.77	0.65
23:UT:1640:CYS:HB3	23:UT:1680:THR:HG21	1.79	0.65
3:JA:658:ARG:HH22	3:JA:766:LEU:HB2	1.62	0.65
1:CB:111:MET:SD	1:CB:216:ASN:ND2	2.70	0.65
23:UT:1298:LEU:HB3	23:UT:1301:ILE:HB	1.78	0.65
8:UE:191:VAL:HA	8:UE:206:ALA:HA	1.79	0.65
15:UL:213:LYS:HD3	15:UL:215:ASP:H	1.61	0.65
20:UQ:586:SER:HB3	20:UQ:597:LYS:HD3	1.78	0.65
24:UU:579:ARG:NH1	24:UU:614:LEU:O	2.29	0.65
66:D3:1779:U:O2	66:D3:1782:A:N7	2.29	0.65
4:UA:518:VAL:HG12	4:UA:534:THR:HG22	1.77	0.65
23:UT:1515:ALA:HA	23:UT:1518:MET:HG2	1.78	0.65
23:UT:1866:SER:HB3	23:UT:1907:ASN:HD22	1.61	0.65
3:JA:122:CYS:HB2	3:JA:148:VAL:HG12	1.79	0.65
66:D3:625:C:N3	66:D3:974:A:N1	2.44	0.65
3:JA:107:TYR:HB2	3:JA:110:GLU:HG2	1.78	0.65
9:UF:368:THR:HA	9:UF:371:ILE:HD12	1.79	0.65
66:D3:753:A:N1	66:D3:797:G:C6	2.64	0.65
16:UM:126:ILE:HD11	16:UM:150:LEU:HD21	1.79	0.65
23:UT:1992:GLU:O	23:UT:1996:GLN:NE2	2.29	0.65
49:DE:185:GLY:H	49:DE:224:ASN:HB3	1.62	0.65
20:UQ:408:THR:HG21	20:UQ:488:LEU:HB3	1.79	0.64
52:DH:44:LYS:HG3	52:DH:63:PRO:HD3	1.80	0.64
20:UQ:368:ASP:HB3	20:UQ:389:LEU:HD22	1.78	0.64
7:UD:420:LEU:HD11	7:UD:462:VAL:HG21	1.78	0.64
2:DA:27:LYS:HG2	2:DA:49:ASN:HA	1.78	0.64
27:UZ:49:ASN:HA	27:UZ:193:ASN:HD21	1.61	0.64
28:CD:169:LYS:NZ	28:CD:390:ASP:O	2.31	0.64
28:CD:176:GLN:OE1	29:CE:183:ARG:NH1	2.31	0.64
33:CJ:282:ARG:NH2	66:D3:560:U:OP2	2.31	0.64
8:UE:285:ASP:N	8:UE:285:ASP:OD1	2.31	0.64
22:US:179:GLU:OE2	22:US:183:LYS:NZ	2.31	0.64
28:CD:4:ILE:HG23	28:CD:20:VAL:HG21	1.79	0.64
66:D3:1542:G:N7	66:D3:1569:A:N6	2.45	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:UH:520:PRO:HG2	11:UH:523:LEU:CB	2.27	0.64
25:UV:586:VAL:O	25:UV:611:ASP:N	2.29	0.64
66:D3:369:A:C6	66:D3:373:G:C2	2.86	0.64
4:UA:361:VAL:HG22	4:UA:371:VAL:HG22	1.80	0.64
38:JC:353:CYS:HB2	38:JC:356:LEU:HD13	1.79	0.64
66:D3:821:U:H3	66:D3:852:C:N4	1.95	0.64
15:UL:8:PHE:H	15:UL:651:GLN:HE22	1.46	0.64
23:UT:225:GLN:HG3	23:UT:228:LEU:H	1.61	0.64
38:JC:121:ARG:NH2	66:D3:341:A:OP1	2.31	0.64
23:UT:1101:GLN:HE21	66:D3:200:A:H2'	1.62	0.64
66:D3:48:G:H5''	66:D3:425:A:H61	1.63	0.64
10:UG:128:THR:HG22	10:UG:134:VAL:HG22	1.80	0.63
13:UJ:1667:VAL:HG13	13:UJ:1710:ALA:HA	1.79	0.63
23:UT:443:PRO:O	23:UT:449:ARG:NH2	2.31	0.63
27:UZ:56:ILE:HD11	48:JQ:193:PRO:HD2	1.80	0.63
43:JK:472:ILE:HA	43:JK:475:TYR:HB2	1.80	0.63
46:JO:116:ILE:HD13	46:JO:174:MET:HG3	1.80	0.63
66:D3:1671:A:N6	66:D3:1730:A:O2'	2.32	0.63
7:UD:550:VAL:HG23	7:UD:563:LEU:HB2	1.79	0.63
26:UX:162:GLN:OE1	26:UX:165:ARG:NH1	2.32	0.63
38:JC:331:THR:OG1	38:JC:339:HIS:O	2.15	0.63
39:JF:55:ILE:O	39:JF:63:ASP:HA	1.98	0.63
23:UT:1818:LEU:HD22	23:UT:1872:ALA:HB2	1.79	0.63
66:D3:317:C:N3	66:D3:348:U:O4	2.31	0.63
66:D3:329:G:H2'	66:D3:330:G:C8	2.33	0.63
4:UA:520:ALA:HB3	4:UA:533:SER:HB3	1.79	0.63
14:UK:92:SER:H	14:UK:95:GLN:HE21	1.47	0.63
38:JC:6:THR:HG23	38:JC:13:VAL:H	1.62	0.63
65:D2:426:G:H21	65:D2:428:A:H8	1.47	0.63
7:UD:156:LEU:HD23	7:UD:170:ILE:HD11	1.80	0.63
16:UM:631:MET:HG2	16:UM:645:LYS:HG3	1.80	0.63
24:UU:323:VAL:HG13	24:UU:343:LEU:HD22	1.81	0.63
1:CA:248:ASP:OD2	1:CA:251:ARG:NH2	2.32	0.63
35:CL:304:LEU:O	35:CL:788:TYR:HB3	1.99	0.63
47:JP:302:LYS:NZ	47:JP:456:GLU:OE2	2.32	0.63
66:D3:1276:U:C4	66:D3:1433:G:C6	2.86	0.63
8:UE:23:ALA:HB1	21:UR:261:PRO:HG3	1.80	0.63
22:US:180:PHE:O	22:US:184:TYR:HB3	1.98	0.63
28:CD:143:GLN:NE2	28:CD:145:GLY:O	2.32	0.63
38:JC:280:LEU:HD11	38:JC:289:ILE:HG12	1.80	0.63
65:D2:6:A:N6	65:D2:8:A:N3	2.47	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:UT:1298:LEU:HD22	23:UT:1301:ILE:HD13	1.81	0.62
54:DJ:108:ARG:HH12	54:DJ:110:GLN:HE21	1.44	0.62
54:DJ:109:LEU:HB2	54:DJ:146:PHE:HB3	1.81	0.62
65:D2:116:U:H3	65:D2:130:G:H1	1.47	0.62
65:D2:484:G:N2	65:D2:486:U:O2'	2.32	0.62
6:UC:580:ARG:NH1	26:UX:49:SER:O	2.31	0.62
23:UT:1397:ILE:O	23:UT:1401:ASN:ND2	2.33	0.62
28:CD:277:ARG:NH2	29:CE:261:GLN:OE1	2.32	0.62
30:CG:95:ARG:NH1	67:D4:253:G:OP2	2.32	0.62
66:D3:214:G:H21	66:D3:251:A:H62	1.46	0.62
66:D3:821:U:H3	66:D3:852:C:H42	1.46	0.62
13:UJ:615:ASN:HD21	13:UJ:617:LYS:HG2	1.64	0.62
23:UT:367:ARG:HB2	23:UT:403:LEU:HD13	1.80	0.62
30:CG:28:ALA:HB2	30:CG:33:LEU:HD23	1.81	0.62
33:CJ:172:MET:HB2	33:CJ:175:ASP:HB2	1.82	0.62
66:D3:1684:U:H3	66:D3:1717:G:H1	1.47	0.62
10:UG:229:ARG:NH1	65:D2:329:A:OP1	2.33	0.62
20:UQ:680:ALA:HB2	20:UQ:750:LEU:HD22	1.81	0.62
23:UT:707:PRO:O	23:UT:775:ARG:NH1	2.30	0.62
66:D3:764:U:H3	66:D3:772:G:H1	1.46	0.62
66:D3:1697:G:H2'	66:D3:1698:G:H8	1.65	0.62
4:UA:482:SER:OG	4:UA:485:ASN:OD1	2.15	0.62
31:CH:545:LYS:NZ	67:D4:251:G:N7	2.48	0.62
9:UF:143:ASN:HB3	9:UF:146:ILE:HG22	1.82	0.62
22:US:352:VAL:HG13	22:US:354:TYR:H	1.65	0.62
47:JP:298:LEU:O	47:JP:457:ARG:NH1	2.33	0.62
59:DS:24:GLY:HA2	59:DS:58:ALA:HB3	1.81	0.62
66:D3:654:C:N4	66:D3:680:U:H3	1.96	0.62
66:D3:1273:G:O6	66:D3:1437:U:O2	2.17	0.62
2:DA:214:LYS:NZ	66:D3:886:U:OP1	2.32	0.62
11:UH:520:PRO:CG	11:UH:523:LEU:HG	2.17	0.62
13:UJ:753:ALA:HB1	13:UJ:791:VAL:HG11	1.82	0.62
15:UL:45:ALA:HB3	15:UL:48:ASP:HB3	1.81	0.62
23:UT:482:ARG:HA	23:UT:485:ILE:HD12	1.81	0.62
23:UT:718:PRO:HD3	23:UT:758:ILE:HG13	1.82	0.62
28:CD:180:LEU:HD13	29:CE:183:ARG:HG2	1.82	0.62
66:D3:683:C:H2'	66:D3:684:A:H8	1.64	0.62
5:UB:538:LYS:HG2	5:UB:624:THR:HB	1.82	0.62
11:UH:520:PRO:HD2	11:UH:520:PRO:O	1.99	0.62
18:UO:79:ARG:NH1	66:D3:1534:G:N7	2.48	0.62
23:UT:12:LYS:NZ	66:D3:60:U:OP2	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:UV:151:SER:O	25:UV:155:ASN:ND2	2.33	0.62
45:JN:224:HIS:NE2	67:D4:15:U:OP2	2.33	0.62
56:DN:55:ARG:NH1	56:DN:56:ASP:OD1	2.33	0.62
66:D3:39:A:H8	66:D3:39:A:C5'	2.11	0.62
38:JC:72:MET:HG2	38:JC:83:VAL:HG22	1.82	0.62
65:D2:24:U:O2	65:D2:56:G:N2	2.33	0.62
14:UK:22:ARG:NH2	35:CL:999:ASP:O	2.33	0.62
20:UQ:690:ASN:ND2	20:UQ:749:ASP:O	2.33	0.62
23:UT:180:LEU:HD22	23:UT:192:SER:HB3	1.80	0.62
47:JP:151:ASN:ND2	47:JP:170:GLU:OE1	2.33	0.62
66:D3:175:G:C2	66:D3:266:A:N7	2.68	0.62
66:D3:205:U:O2	66:D3:263:C:N4	2.33	0.62
66:D3:369:A:N6	66:D3:373:G:C6	2.68	0.62
13:UJ:407:PHE:O	13:UJ:410:ILE:O	2.17	0.61
66:D3:153:G:O6	66:D3:161:U:O4	2.18	0.61
67:D4:168:C:H2'	67:D4:169:A:H8	1.65	0.61
3:JA:822:ASN:HD22	3:JA:869:ASP:HB2	1.64	0.61
3:JA:844:SER:HA	3:JA:847:ASN:HD22	1.65	0.61
15:UL:448:GLY:HA3	15:UL:476:ILE:HD11	1.82	0.61
16:UM:24:THR:HG21	16:UM:68:LYS:HA	1.81	0.61
23:UT:1600:THR:O	23:UT:1609:ARG:NH2	2.32	0.61
27:UZ:122:PHE:O	27:UZ:149:LYS:NZ	2.34	0.61
38:JC:202:ASN:HB3	38:JC:220:LEU:HA	1.81	0.61
66:D3:410:A:N1	66:D3:423:G:O6	2.34	0.61
11:UH:558:CYS:O	11:UH:585:ARG:NH1	2.31	0.61
12:UI:502:ARG:NH2	18:UO:509:GLN:OE1	2.33	0.61
17:UN:294:GLU:OE1	47:JP:250:ARG:NH2	2.33	0.61
20:UQ:19:LYS:HB2	20:UQ:49:ASN:HD22	1.66	0.61
66:D3:69:G:O6	66:D3:83:G:N2	2.33	0.61
66:D3:545:A:O2'	66:D3:546:U:O4'	2.16	0.61
42:JJ:187:VAL:HG13	42:JJ:251:ILE:HD11	1.82	0.61
61:DX:89:ASN:O	61:DX:92:CYS:N	2.33	0.61
66:D3:1272:U:O2	66:D3:1438:G:O6	2.19	0.61
5:UB:538:LYS:HD2	5:UB:625:GLU:HG3	1.82	0.61
21:UR:430:GLY:HA2	21:UR:455:ILE:HD12	1.81	0.61
25:UV:1188:PRO:HA	25:UV:1191:LYS:HB2	1.83	0.61
38:JC:56:SER:HA	38:JC:336:ILE:HG23	1.81	0.61
3:JA:154:SER:HG	3:JA:156:SER:HG	1.48	0.61
24:UU:430:ILE:HB	24:UU:443:TRP:HB2	1.83	0.61
66:D3:1273:G:O6	66:D3:1437:U:C2	2.54	0.61
38:JC:178:LEU:HD23	38:JC:183:VAL:HG22	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:D3:1695:G:H1	66:D3:1707:A:H61	1.47	0.61
1:CA:111:MET:SD	1:CA:216:ASN:ND2	2.73	0.61
15:UL:103:ILE:HB	15:UL:117:PHE:HB2	1.82	0.61
4:UA:347:SER:HB2	4:UA:365:GLU:HB2	1.82	0.61
4:UA:716:ASP:OD1	24:UU:576:ARG:NH1	2.34	0.61
13:UJ:675:ASN:ND2	13:UJ:684:TYR:OH	2.33	0.61
20:UQ:474:THR:HG21	20:UQ:493:PRO:HB2	1.81	0.61
38:JC:258:ARG:HB3	43:JK:497:LEU:HD23	1.82	0.61
3:JA:278:THR:HA	3:JA:406:VAL:O	2.01	0.61
3:JA:612:ASP:O	3:JA:616:TRP:HB2	2.00	0.61
4:UA:58:ILE:HA	4:UA:74:ASP:HA	1.83	0.61
19:UP:204:ARG:HH21	65:D2:170:U:H4'	1.64	0.61
20:UQ:200:ASN:ND2	20:UQ:262:MET:O	2.33	0.61
22:US:381:LYS:NZ	22:US:462:SER:O	2.33	0.61
33:CJ:184:GLU:OE2	66:D3:1159:C:N4	2.33	0.61
7:UD:202:ILE:HD11	7:UD:267:PHE:HE2	1.66	0.60
11:UH:272:PHE:HA	11:UH:279:TYR:HA	1.83	0.60
33:CJ:235:GLN:HB3	33:CJ:250:VAL:O	2.01	0.60
66:D3:48:G:O6	66:D3:432:G:C2	2.54	0.60
66:D3:188:A:OP2	66:D3:189:C:N4	2.34	0.60
66:D3:1270:G:C2	66:D3:1441:C:O2	2.54	0.60
7:UD:57:ILE:HA	7:UD:341:SER:HA	1.82	0.60
13:UJ:1737:LEU:HG	23:UT:31:ALA:HB1	1.83	0.60
20:UQ:283:VAL:HA	20:UQ:289:GLN:O	2.01	0.60
23:UT:1099:LEU:HB2	23:UT:1142:VAL:HG22	1.83	0.60
23:UT:1644:ARG:NH2	23:UT:1680:THR:O	2.33	0.60
27:UZ:194:ASP:OD2	66:D3:1499:G:N2	2.33	0.60
65:D2:20:C:H2'	65:D2:21:A:H8	1.66	0.60
66:D3:657:U:O2	66:D3:677:G:O6	2.19	0.60
1:CB:267:VAL:HG11	1:CB:298:ILE:HD12	1.82	0.60
13:UJ:348:ILE:HD13	13:UJ:373:ILE:HG13	1.81	0.60
16:UM:241:GLN:NE2	16:UM:260:THR:OG1	2.34	0.60
20:UQ:745:ILE:O	20:UQ:754:LEU:N	2.34	0.60
38:JC:254:ILE:O	38:JC:263:SER:N	2.35	0.60
47:JP:188:HIS:HB3	47:JP:193:THR:HB	1.83	0.60
66:D3:271:A:C2	66:D3:285:G:N1	2.70	0.60
2:DA:82:ARG:NH1	2:DA:188:LEU:O	2.34	0.60
3:JA:789:LEU:HD23	3:JA:793:PHE:HE1	1.66	0.60
11:UH:659:THR:HG21	12:UI:507:ARG:HD2	1.83	0.60
35:CL:1121:LYS:NZ	65:D2:446:U:OP1	2.33	0.60
36:CM:141:MET:HG2	36:CM:300:TYR:HE2	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:CN:91:ASP:O	37:CN:121:ARG:NH1	2.35	0.60
3:JA:520:ARG:NH1	3:JA:556:MET:O	2.35	0.60
14:UK:248:ARG:NH1	21:UR:514:LEU:O	2.34	0.60
16:UM:745:ASP:OD2	34:CK:508:ARG:NH1	2.35	0.60
20:UQ:96:ILE:HG12	20:UQ:108:THR:HG21	1.82	0.60
20:UQ:108:THR:HG22	20:UQ:118:VAL:HG22	1.83	0.60
27:UZ:38:ILE:HG22	27:UZ:244:VAL:HG12	1.84	0.60
33:CJ:93:SER:OG	33:CJ:94:ARG:N	2.34	0.60
49:DE:197:HIS:NE2	49:DE:199:GLU:OE2	2.32	0.60
4:UA:386:HIS:HE2	4:UA:404:SER:HG	1.49	0.60
10:UG:123:THR:HG23	10:UG:124:HIS:HD2	1.65	0.60
18:UO:5:ARG:NH1	65:D2:86:C:O2'	2.34	0.60
28:CD:4:ILE:H	28:CD:23:GLN:HE21	1.48	0.60
35:CL:1138:ARG:NH1	66:D3:492:A:OP2	2.34	0.60
47:JP:306:SER:OG	47:JP:307:ALA:N	2.35	0.60
3:JA:658:ARG:HH12	3:JA:766:LEU:H	1.50	0.60
13:UJ:1749:ARG:O	13:UJ:1753:VAL:HB	2.02	0.60
15:UL:425:ILE:HG22	15:UL:426:ARG:HG2	1.82	0.60
18:UO:301:PRO:HG2	18:UO:323:SER:HB2	1.84	0.60
23:UT:1811:ILE:HD11	23:UT:1875:LEU:HD21	1.82	0.60
29:CE:323:GLU:OE2	67:D4:324:U:N3	2.35	0.60
33:CJ:281:ILE:HG22	33:CJ:284:ALA:HB2	1.82	0.60
38:JC:162:LEU:HB2	38:JC:176:PHE:HB2	1.84	0.60
4:UA:344:HIS:NE2	4:UA:366:ASP:OD2	2.34	0.60
5:UB:529:LEU:HD23	5:UB:563:GLU:HB3	1.84	0.60
11:UH:645:ILE:HD11	11:UH:649:SER:HB3	1.83	0.60
18:UO:2:SER:OG	18:UO:3:THR:N	2.33	0.60
23:UT:969:SER:O	23:UT:972:LEU:C	2.39	0.60
33:CJ:74:ASP:OD2	33:CJ:201:ARG:NH1	2.35	0.60
66:D3:244:A:H61	66:D3:250:C:N4	1.98	0.60
66:D3:369:A:N1	66:D3:373:G:C2	2.69	0.60
3:JA:104:ARG:NH2	3:JA:105:TYR:O	2.34	0.60
10:UG:116:ILE:HD11	10:UG:398:ILE:HG23	1.84	0.60
25:UV:867:ILE:HD11	25:UV:879:GLU:HG2	1.84	0.60
39:JG:41:MET:O	39:JG:110:LEU:HA	2.02	0.60
66:D3:1677:C:N3	66:D3:1724:U:O2	2.34	0.60
66:D3:1695:G:H1	66:D3:1707:A:N6	2.00	0.60
9:UF:320:ILE:HD11	9:UF:338:VAL:HG11	1.82	0.60
21:UR:401:GLU:O	21:UR:427:ASN:ND2	2.35	0.60
23:UT:522:LEU:HA	23:UT:525:ILE:HG12	1.84	0.60
33:CJ:187:PRO:HB3	33:CJ:220:ARG:HE	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:JP:321:VAL:HG22	47:JP:331:ILE:HG12	1.84	0.60
8:UE:484:LEU:HD22	8:UE:498:LEU:HG	1.84	0.59
15:UL:23:CYS:HB2	15:UL:41:LEU:HD11	1.85	0.59
30:CF:46:ARG:NH1	67:D4:326:U:OP1	2.34	0.59
30:CG:106:ASP:OD1	30:CG:106:ASP:N	2.35	0.59
37:CN:18:PHE:HB2	37:CN:35:HIS:HB3	1.83	0.59
61:DX:46:SER:OG	61:DX:47:SER:N	2.35	0.59
17:UN:890:VAL:HG23	47:JP:358:MET:HB3	1.85	0.59
3:JA:769:ARG:NH2	3:JA:770:GLU:O	2.34	0.59
13:UJ:733:MET:N	13:UJ:733:MET:SD	2.74	0.59
16:UM:718:VAL:HG21	16:UM:722:GLU:HG2	1.84	0.59
23:UT:13:ARG:NH1	62:DY:86:GLU:O	2.31	0.59
13:UJ:1705:LEU:HB3	13:UJ:1709:ARG:HH12	1.68	0.59
23:UT:1410:LEU:HD23	23:UT:1413:VAL:H	1.67	0.59
29:CE:355:ASN:ND2	29:CE:402:GLU:OE1	2.32	0.59
37:CN:20:LEU:HD11	37:CN:35:HIS:HB2	1.84	0.59
47:JP:228:ASN:ND2	47:JP:230:ASN:O	2.36	0.59
67:D4:164:C:H2'	67:D4:165:G:H8	1.67	0.59
11:UH:31:VAL:HA	11:UH:355:LEU:H	1.66	0.59
22:US:181:THR:HA	22:US:185:TYR:HB3	1.84	0.59
23:UT:1464:ARG:HA	23:UT:1467:LYS:HZ3	1.67	0.59
28:CD:110:LYS:HD2	47:JP:157:ASN:HB2	1.84	0.59
29:CE:359:ILE:HG13	29:CE:398:LEU:HD13	1.83	0.59
35:CL:623:LYS:HA	35:CL:626:LYS:HE2	1.84	0.59
50:DF:206:SER:O	50:DF:212:LYS:NZ	2.36	0.59
66:D3:1270:G:C2	66:D3:1441:C:C2	2.90	0.59
13:UJ:131:ASN:OD1	13:UJ:131:ASN:N	2.35	0.59
14:UK:196:LYS:NZ	65:D2:424:G:OP2	2.33	0.59
20:UQ:400:GLN:HE21	20:UQ:421:LYS:HB2	1.67	0.59
21:UR:227:LEU:O	21:UR:593:HIS:NE2	2.36	0.59
24:UU:542:LEU:HD12	24:UU:546:ILE:HD11	1.85	0.59
32:CI:40:ASN:OD1	32:CI:40:ASN:N	2.34	0.59
35:CL:828:ARG:NH1	61:DX:94:ASN:O	2.36	0.59
57:DO:114:ARG:NH1	57:DO:115:ILE:O	2.35	0.59
62:DY:124:ARG:NH2	66:D3:151:G:O6	2.34	0.59
66:D3:325:G:H2'	66:D3:326:G:C8	2.37	0.59
66:D3:1775:U:O4	66:D3:1786:G:O6	2.20	0.59
13:UJ:228:ASP:N	13:UJ:228:ASP:OD1	2.35	0.59
13:UJ:556:LYS:O	13:UJ:592:ARG:NH2	2.36	0.59
16:UM:559:ILE:HB	16:UM:569:LYS:HB2	1.84	0.59
22:US:155:LEU:HD11	22:US:177:ILE:HG12	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:UT:798:PRO:O	23:UT:802:ASN:ND2	2.34	0.59
24:UU:737:LEU:HG	42:JJ:269:ARG:HH21	1.66	0.59
24:UU:841:SER:HB3	24:UU:842:PRO:HD2	1.83	0.59
42:JJ:204:ARG:NH1	42:JJ:250:LEU:O	2.36	0.59
66:D3:1655:A:H61	66:D3:1745:G:N2	2.01	0.59
7:UD:436:ASP:N	7:UD:436:ASP:OD1	2.35	0.59
7:UD:563:LEU:O	13:UJ:639:ARG:NH1	2.36	0.59
16:UM:760:ILE:HD11	16:UM:785:ILE:HD13	1.84	0.59
32:CI:66:PRO:HG3	45:JN:207:ARG:HH11	1.67	0.59
47:JP:262:MET:HG3	47:JP:283:ASP:HB3	1.85	0.59
66:D3:634:G:N2	66:D3:966:A:C5	2.70	0.59
66:D3:1541:G:C2	66:D3:1569:A:C6	2.80	0.59
67:D4:205:G:C2	67:D4:245:U:O2	2.56	0.59
2:DA:48:VAL:HG22	2:DA:64:ARG:HH21	1.67	0.59
6:UC:548:LYS:HA	61:DX:139:LYS:HE2	1.85	0.59
16:UM:413:ILE:HG22	16:UM:429:LYS:HA	1.84	0.59
20:UQ:366:ASN:ND2	20:UQ:368:ASP:OD1	2.36	0.59
23:UT:215:VAL:HA	23:UT:218:LYS:HD2	1.85	0.59
23:UT:267:SER:OG	23:UT:313:ARG:NH1	2.36	0.59
25:UV:1101:ASP:HB2	25:UV:1233:ASN:HB3	1.84	0.59
35:CL:555:MET:O	36:CM:327:ARG:NH2	2.35	0.59
57:DO:38:THR:HG21	66:D3:895:G:H21	1.67	0.59
3:JB:383:LEU:HA	3:JB:405:LEU:O	2.03	0.59
7:UD:192:THR:OG1	7:UD:242:TRP:O	2.21	0.59
23:UT:1289:ILE:HD13	23:UT:1305:VAL:HG21	1.84	0.59
29:CE:65:GLU:O	29:CE:93:LYS:NZ	2.35	0.59
31:CH:518:LYS:NZ	67:D4:248:G:OP2	2.36	0.59
37:CN:63:ASN:OD1	37:CN:66:HIS:ND1	2.33	0.59
39:JF:80:MET:SD	39:JF:82:ARG:NH2	2.76	0.59
10:UG:364:ARG:NH2	65:D2:316:U:OP1	2.35	0.58
20:UQ:73:LEU:HD23	20:UQ:129:PRO:HG2	1.85	0.58
21:UR:242:ASN:HB2	21:UR:586:VAL:HG22	1.85	0.58
33:CJ:193:ASN:HB3	33:CJ:226:ASN:HB3	1.84	0.58
4:UA:115:SER:O	4:UA:115:SER:OG	2.21	0.58
4:UA:362:THR:HG21	4:UA:701:LEU:HD11	1.85	0.58
13:UJ:1370:TYR:HA	13:UJ:1373:ILE:HG12	1.84	0.58
51:DG:33:GLY:HA2	51:DG:51:LYS:HZ2	1.68	0.58
66:D3:23:G:N1	66:D3:603:U:C2	2.71	0.58
66:D3:871:G:H2'	66:D3:872:G:C8	2.38	0.58
7:UD:392:VAL:HG13	7:UD:401:ILE:HG12	1.85	0.58
8:UE:549:CYS:HB2	11:UH:678:LEU:HD21	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:UT:1098:ASN:ND2	66:D3:199:G:O2'	2.37	0.58
29:CE:8:THR:HG23	29:CE:10:ALA:H	1.68	0.58
33:CJ:150:THR:HA	33:CJ:167:LEU:O	2.03	0.58
35:CL:82:LYS:NZ	70:CL:2001:GTP:O2B	2.34	0.58
42:JJ:114:THR:HG23	42:JJ:115:LYS:HG3	1.85	0.58
65:D2:174:U:H3	65:D2:222:G:H1	1.51	0.58
67:D4:205:G:N2	67:D4:245:U:O2	2.36	0.58
66:D3:472:U:O2'	66:D3:768:C:O2	2.16	0.58
7:UD:264:PHE:HB2	7:UD:274:GLN:HB2	1.84	0.58
10:UG:130:ARG:NH2	10:UG:379:GLU:OE1	2.36	0.58
15:UL:334:SER:OG	15:UL:335:LEU:N	2.35	0.58
23:UT:100:GLU:HA	23:UT:103:LEU:HB2	1.84	0.58
23:UT:1293:ARG:NH2	23:UT:1302:SER:OG	2.36	0.58
25:UV:268:LEU:HB2	25:UV:294:LEU:HB2	1.84	0.58
29:CE:125:PRO:HA	29:CE:128:LEU:HD13	1.85	0.58
66:D3:516:G:C6	66:D3:537:G:C2	2.92	0.58
5:UB:444:ASN:H	5:UB:446:GLN:HE21	1.51	0.58
16:UM:749:ASN:ND2	34:CK:511:ASN:O	2.36	0.58
23:UT:1515:ALA:HB3	23:UT:1554:PRO:HG2	1.85	0.58
35:CL:166:ARG:NH1	35:CL:231:LYS:O	2.36	0.58
53:DI:5:ARG:NH1	66:D3:336:G:O6	2.37	0.58
53:DI:8:ARG:HA	53:DI:18:ARG:HH11	1.69	0.58
55:DL:109:VAL:HG22	55:DL:137:PHE:HB2	1.85	0.58
65:D2:184:U:O4	65:D2:213:G:O6	2.22	0.58
66:D3:369:A:C6	66:D3:373:G:N1	2.72	0.58
2:DA:152:ARG:NE	66:D3:934:C:N3	2.47	0.58
25:UV:534:GLY:H	25:UV:606:ASN:HB3	1.68	0.58
29:CE:160:ASP:OD1	29:CE:160:ASP:N	2.36	0.58
35:CL:903:ALA:HB3	35:CL:906:ASP:HB2	1.86	0.58
35:CL:966:ILE:HG22	35:CL:1003:LEU:HD12	1.86	0.58
35:CL:1107:LYS:HG3	65:D2:412:A:H5''	1.86	0.58
38:JC:185:HIS:HD1	38:JC:234:THR:HG1	1.50	0.58
51:DG:93:LYS:NZ	66:D3:405:C:OP1	2.37	0.58
57:DO:22:SER:OG	57:DO:23:PHE:N	2.37	0.58
66:D3:395:U:H3	66:D3:399:A:H62	1.52	0.58
3:JA:794:HIS:HB3	3:JA:795:LYS:HD2	1.85	0.58
10:UG:123:THR:OG1	10:UG:140:ARG:NH2	2.37	0.58
16:UM:415:TRP:HA	16:UM:425:ASP:O	2.03	0.58
22:US:399:ILE:HG13	22:US:400:PRO:HD3	1.86	0.58
38:JC:170:GLY:O	43:JK:469:GLN:NE2	2.34	0.58
53:DI:48:THR:OG1	66:D3:333:A:OP1	2.21	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:D3:365:G:O5'	66:D3:757:A:N6	2.36	0.58
7:UD:106:ASN:H	7:UD:153:GLN:HG2	1.68	0.58
8:UE:200:GLU:HG2	8:UE:218:HIS:HE1	1.68	0.58
13:UJ:550:TYR:O	13:UJ:553:SER:C	2.43	0.58
15:UL:197:ILE:HG22	15:UL:198:GLU:HG3	1.86	0.58
23:UT:408:VAL:O	23:UT:411:PHE:C	2.42	0.58
23:UT:1100:GLN:NE2	66:D3:186:C:O2'	2.37	0.58
36:CM:231:ARG:NH2	66:D3:1132:A:O2'	2.37	0.58
46:JO:58:ASN:HD22	65:D2:347:U:H5''	1.69	0.58
62:DY:83:LYS:NZ	62:DY:96:LEU:O	2.37	0.58
62:DY:131:ARG:NH2	66:D3:153:G:OP2	2.35	0.58
38:JC:164:ARG:NH2	38:JC:174:ASN:O	2.36	0.57
52:DH:58:LEU:O	52:DH:91:ILE:HB	2.04	0.57
57:DO:24:ASN:ND2	66:D3:902:G:OP2	2.35	0.57
66:D3:1705:C:C4	66:D3:1706:C:N4	2.72	0.57
3:JA:860:PRO:HB3	3:JA:892:ARG:HH21	1.69	0.57
3:JB:55:VAL:O	3:JB:103:ILE:HA	2.04	0.57
25:UV:529:VAL:HA	25:UV:695:GLN:O	2.04	0.57
29:CE:98:ILE:HD11	29:CE:107:VAL:HG21	1.86	0.57
36:CM:85:ALA:HA	36:CM:115:SER:O	2.04	0.57
39:JG:55:ILE:O	39:JG:63:ASP:N	2.37	0.57
52:DH:80:GLU:HA	52:DH:83:LYS:HD2	1.86	0.57
66:D3:753:A:C2	66:D3:797:G:C6	2.92	0.57
1:CA:240:VAL:HG13	1:CA:261:LEU:HD13	1.86	0.57
3:JA:722:TYR:HA	3:JA:765:VAL:HG22	1.86	0.57
4:UA:328:LEU:HD12	4:UA:340:LYS:HG3	1.86	0.57
6:UC:599:LYS:NZ	66:D3:498:G:OP1	2.37	0.57
16:UM:155:GLN:HB2	16:UM:158:SER:HB3	1.86	0.57
23:UT:1083:TYR:HE2	23:UT:1125:ASP:HB2	1.69	0.57
38:JC:124:GLN:HG2	38:JC:134:THR:HG23	1.85	0.57
65:D2:436:G:H2'	65:D2:437:G:C8	2.40	0.57
1:CB:258:HIS:ND1	1:CB:320:TYR:OH	2.38	0.57
13:UJ:559:ASN:ND2	13:UJ:595:THR:O	2.37	0.57
15:UL:760:ILE:HG13	15:UL:831:LYS:HB3	1.85	0.57
20:UQ:682:ASN:HB2	20:UQ:689:ILE:HD11	1.86	0.57
21:UR:319:ARG:NH1	65:D2:89:C:OP1	2.36	0.57
23:UT:498:ILE:HD12	23:UT:501:LEU:HD12	1.86	0.57
23:UT:654:THR:HG21	23:UT:691:LYS:HD3	1.85	0.57
32:CI:29:ASP:N	32:CI:29:ASP:OD1	2.37	0.57
38:JC:121:ARG:HG3	38:JC:140:PHE:HA	1.85	0.57
51:DG:3:LEU:O	51:DG:15:THR:HA	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:D3:1677:C:H42	66:D3:1724:U:H3	0.74	0.57
1:CA:242:ALA:HB2	1:CA:253:ILE:HD11	1.87	0.57
3:JA:540:LEU:HD23	3:JA:585:VAL:HG12	1.86	0.57
5:UB:422:LEU:HD21	5:UB:462:LEU:HD22	1.85	0.57
6:UC:595:LYS:O	44:JM:134:ARG:NH1	2.37	0.57
31:CH:70:TYR:OH	31:CH:169:LYS:NZ	2.36	0.57
33:CJ:164:GLN:NE2	33:CJ:260:GLU:OE2	2.37	0.57
35:CL:830:ARG:NH2	35:CL:831:ARG:O	2.38	0.57
54:DJ:106:GLU:HA	54:DJ:111:THR:HG21	1.86	0.57
55:DL:16:GLN:NE2	55:DL:61:THR:O	2.38	0.57
55:DL:47:THR:HG23	55:DL:114:ALA:HB1	1.86	0.57
18:UO:59:SER:HB3	18:UO:62:ARG:HB3	1.86	0.57
4:UA:730:LEU:HD21	4:UA:754:VAL:HG23	1.87	0.57
1:CB:155:ILE:HD11	1:CB:162:LEU:HD13	1.86	0.57
16:UM:537:TRP:HD1	16:UM:553:GLY:HA2	1.69	0.57
20:UQ:340:ILE:HG12	20:UQ:359:GLN:HB3	1.87	0.57
22:US:348:ASP:O	22:US:352:VAL:HB	2.04	0.57
23:UT:1375:ILE:O	23:UT:1379:ASN:ND2	2.36	0.57
36:CM:183:ILE:O	36:CM:312:ARG:NH1	2.36	0.57
38:JC:185:HIS:ND1	38:JC:234:THR:OG1	2.37	0.57
44:JM:145:GLU:HG2	44:JM:146:ARG:HG3	1.86	0.57
13:UJ:701:SER:HA	13:UJ:704:LYS:HD2	1.87	0.57
13:UJ:1749:ARG:NH2	23:UT:35:GLU:O	2.38	0.57
22:US:224:ASN:O	22:US:284:ARG:NH2	2.38	0.57
25:UV:526:CYS:O	25:UV:698:ASN:ND2	2.37	0.57
26:UX:182:ILE:HD12	26:UX:185:LEU:HB2	1.85	0.57
31:CH:157:LEU:HD23	31:CH:191:SER:HB2	1.87	0.57
51:DG:58:LYS:HG3	51:DG:59:GLN:HG3	1.85	0.57
51:DG:138:ALA:HA	51:DG:141:ILE:HD12	1.87	0.57
55:DL:129:ARG:NH1	66:D3:335:U:O2'	2.38	0.57
66:D3:1043:A:N6	66:D3:1075:C:N4	2.31	0.57
7:UD:485:LYS:HA	7:UD:498:VAL:O	2.04	0.57
13:UJ:1616:VAL:HB	13:UJ:1662:ILE:HD11	1.87	0.57
13:UJ:1692:VAL:O	13:UJ:1695:MET:C	2.43	0.57
20:UQ:371:PHE:HB2	20:UQ:385:ILE:HB	1.87	0.57
21:UR:449:ASP:OD1	21:UR:494:TYR:OH	2.16	0.57
25:UV:656:ARG:HH11	25:UV:668:VAL:HG21	1.70	0.57
35:CL:817:PRO:HA	35:CL:820:ILE:HG22	1.86	0.57
52:DH:9:LEU:HD13	52:DH:12:ALA:H	1.69	0.57
66:D3:872:G:N2	66:D3:956:C:O2	2.38	0.57
66:D3:876:G:O6	66:D3:935:U:O2	2.22	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:UA:406:SER:OG	4:UA:407:LEU:N	2.35	0.57
7:UD:399:VAL:HB	7:UD:420:LEU:HB2	1.86	0.57
13:UJ:661:ILE:HG22	13:UJ:663:SER:H	1.69	0.57
16:UM:552:SER:OG	16:UM:554:ASP:OD1	2.22	0.57
23:UT:408:VAL:O	23:UT:411:PHE:O	2.23	0.57
34:CK:488:SER:OG	34:CK:489:SER:N	2.36	0.57
36:CM:176:GLN:HE21	36:CM:305:LYS:HD3	1.68	0.57
66:D3:657:U:O2	66:D3:677:G:C6	2.58	0.57
5:UB:396:LEU:O	5:UB:400:PRO:N	2.38	0.56
18:UO:377:ASP:OD1	21:UR:341:LYS:NZ	2.34	0.56
23:UT:862:ASN:HB3	23:UT:865:VAL:HG22	1.88	0.56
53:DI:27:PHE:O	66:D3:333:A:N6	2.37	0.56
62:DY:105:ARG:NH2	66:D3:458:G:OP2	2.38	0.56
10:UG:324:ILE:HD13	10:UG:345:LEU:HD21	1.86	0.56
19:UP:208:ARG:HG2	19:UP:210:ALA:H	1.69	0.56
20:UQ:426:ARG:NH2	65:D2:68:U:O2	2.37	0.56
20:UQ:443:ASN:O	20:UQ:447:LYS:N	2.38	0.56
25:UV:552:ARG:O	25:UV:556:ILE:HA	2.05	0.56
32:CI:179:ASP:HB2	58:DQ:7:VAL:HG23	1.88	0.56
34:CK:453:SER:O	34:CK:455:HIS:N	2.36	0.56
49:DE:48:LEU:HD11	49:DE:70:VAL:HG21	1.86	0.56
52:DH:97:ARG:HH12	66:D3:694:U:H2'	1.69	0.56
55:DL:84:ILE:HD12	55:DL:111:VAL:HG11	1.87	0.56
1:CA:228:GLN:O	1:CA:231:ARG:NH2	2.39	0.56
3:JA:49:LEU:HD22	35:CL:304:LEU:HD23	1.87	0.56
1:CB:288:ARG:HE	7:UD:121:THR:HG21	1.70	0.56
7:UD:427:ASN:HB2	7:UD:444:ARG:HD3	1.87	0.56
10:UG:552:ARG:NH2	25:UV:791:LYS:O	2.38	0.56
13:UJ:696:LEU:O	13:UJ:699:ARG:NH1	2.37	0.56
16:UM:552:SER:OG	16:UM:553:GLY:N	2.38	0.56
17:UN:879:ILE:HD12	47:JP:396:TYR:HA	1.88	0.56
20:UQ:726:GLN:HA	20:UQ:739:TYR:HA	1.87	0.56
23:UT:46:HIS:HB3	23:UT:112:GLN:HE21	1.70	0.56
35:CL:889:LEU:HD22	35:CL:922:ILE:HG23	1.88	0.56
35:CL:1051:ASP:OD1	35:CL:1051:ASP:N	2.36	0.56
37:CN:67:MET:HE1	37:CN:87:LEU:HD22	1.87	0.56
46:JO:250:PRO:HG3	56:DN:106:ARG:HG2	1.87	0.56
55:DL:36:LYS:NZ	55:DL:59:PRO:O	2.37	0.56
66:D3:868:G:H1	66:D3:960:U:H3	1.51	0.56
11:UH:587:LEU:HD21	11:UH:636:GLN:HB3	1.87	0.56
13:UJ:671:LEU:HD22	13:UJ:719:SER:HB2	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:UJ:1750:THR:O	13:UJ:1754:LYS:HB2	2.05	0.56
16:UM:294:LEU:HB2	16:UM:303:PHE:HB2	1.86	0.56
23:UT:1279:ASN:HA	23:UT:1282:VAL:HG22	1.88	0.56
24:UU:160:THR:OG1	24:UU:163:GLN:NE2	2.36	0.56
35:CL:831:ARG:NH2	35:CL:835:HIS:O	2.38	0.56
47:JP:123:PHE:HA	47:JP:207:ASN:HD21	1.69	0.56
66:D3:1582:U:C4	66:D3:1614:A:C8	2.94	0.56
66:D3:1734:U:O2'	66:D3:1735:U:H5'	2.05	0.56
1:CB:110:ASN:HD21	1:CB:142:ARG:HD3	1.71	0.56
10:UG:292:THR:HG22	10:UG:298:MET:HB2	1.86	0.56
15:UL:439:LEU:HD12	15:UL:440:PRO:HD2	1.88	0.56
29:CE:366:LYS:NZ	67:D4:82:G:OP1	2.37	0.56
32:CI:137:ARG:NH2	32:CI:139:GLY:O	2.39	0.56
38:JC:147:ASN:HB3	38:JC:152:ASP:HB3	1.86	0.56
49:DE:148:ARG:HH22	51:DG:201:GLN:HE22	1.53	0.56
15:UL:275:GLN:NE2	15:UL:339:LYS:O	2.38	0.56
23:UT:440:ASP:HA	23:UT:449:ARG:HD2	1.87	0.56
29:CE:430:ASP:N	29:CE:430:ASP:OD1	2.34	0.56
38:JC:62:ILE:HG13	38:JC:332:ALA:HB2	1.87	0.56
39:JF:41:MET:O	39:JF:110:LEU:HA	2.06	0.56
52:DH:55:LYS:HB3	52:DH:89:HIS:HE1	1.70	0.56
55:DL:73:GLY:HA3	55:DL:86:ILE:HD12	1.87	0.56
55:DL:132:SER:OG	66:D3:326:G:OP2	2.24	0.56
62:DY:37:LYS:HG2	62:DY:57:VAL:HG23	1.88	0.56
6:UC:560:ASN:HD22	66:D3:477:A:H5'	1.70	0.56
15:UL:390:GLN:NE2	15:UL:413:SER:OG	2.39	0.56
20:UQ:172:ARG:NH2	20:UQ:174:TYR:OH	2.39	0.56
20:UQ:426:ARG:NH1	65:D2:70:A:OP1	2.39	0.56
31:CH:234:GLY:O	31:CH:259:LYS:NZ	2.37	0.56
66:D3:271:A:N1	66:D3:285:G:N1	2.54	0.56
10:UG:357:SER:HA	10:UG:364:ARG:HD3	1.87	0.56
13:UJ:166:ASN:ND2	29:CE:408:THR:O	2.38	0.56
13:UJ:1704:LYS:NZ	13:UJ:1739:ASP:OD2	2.39	0.56
15:UL:453:GLU:OE2	15:UL:455:GLN:NE2	2.38	0.56
23:UT:1034:TYR:OH	23:UT:1090:ARG:NH2	2.38	0.56
25:UV:210:PRO:HD2	25:UV:213:LEU:HD23	1.88	0.56
25:UV:1109:LYS:NZ	25:UV:1170:GLY:O	2.36	0.56
31:CH:224:SER:OG	31:CH:229:GLU:OE2	2.24	0.56
47:JP:76:ASN:HA	47:JP:118:VAL:HG11	1.88	0.56
65:D2:182:G:H2'	65:D2:183:A:H8	1.71	0.56
66:D3:689:G:H2'	66:D3:690:G:C8	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:D3:1658:G:N2	66:D3:1743:U:O2	2.35	0.56
4:UA:517:ASP:OD1	4:UA:517:ASP:N	2.35	0.56
5:UB:620:SER:O	5:UB:624:THR:OG1	2.20	0.56
8:UE:277:LYS:HG2	8:UE:324:ASN:HA	1.87	0.56
9:UF:191:ASN:ND2	44:JM:63:PRO:O	2.34	0.56
10:UG:502:ARG:NH2	65:D2:369:G:N7	2.53	0.56
15:UL:287:ARG:NH2	15:UL:326:LEU:O	2.38	0.56
23:UT:286:ALA:O	23:UT:329:LYS:NZ	2.39	0.56
35:CL:82:LYS:CA	70:CL:2001:GTP:O1B	2.53	0.56
35:CL:880:TYR:HD2	61:DX:94:ASN:HB3	1.70	0.56
38:JC:278:ILE:HG22	38:JC:289:ILE:HB	1.87	0.56
47:JP:73:ILE:HB	47:JP:353:GLN:HG2	1.88	0.56
52:DH:70:PHE:O	52:DH:74:GLN:HB2	2.05	0.56
52:DH:97:ARG:NE	52:DH:98:ILE:O	2.38	0.56
56:DN:130:ARG:NH1	56:DN:139:TRP:O	2.39	0.56
60:DW:2:THR:HG23	66:D3:967:A:H4'	1.88	0.56
8:UE:495:GLN:O	8:UE:499:ASN:ND2	2.38	0.56
13:UJ:262:VAL:HG23	13:UJ:301:LYS:HG2	1.88	0.56
16:UM:268:GLN:HG2	16:UM:280:ARG:HG2	1.87	0.56
39:JF:100:LEU:O	39:JF:105:ASN:ND2	2.37	0.56
66:D3:195:G:H2'	66:D3:196:G:C8	2.41	0.56
13:UJ:728:GLU:HB3	13:UJ:734:ILE:HD13	1.87	0.55
20:UQ:59:THR:HG23	20:UQ:61:GLN:HB2	1.88	0.55
20:UQ:283:VAL:HG12	20:UQ:290:ILE:HG22	1.88	0.55
23:UT:653:LYS:NZ	23:UT:654:THR:O	2.38	0.55
24:UU:362:GLN:HB3	24:UU:381:ARG:HH22	1.71	0.55
35:CL:67:PRO:O	35:CL:114:ARG:NH2	2.39	0.55
35:CL:830:ARG:NH1	61:DX:138:GLU:OE2	2.39	0.55
44:JM:203:LYS:O	44:JM:206:TYR:N	2.36	0.55
53:DI:113:PHE:O	53:DI:117:TYR:HB2	2.06	0.55
65:D2:474:A:H2'	65:D2:475:G:H8	1.72	0.55
66:D3:1486:G:O6	66:D3:1487:A:N6	2.39	0.55
2:DA:47:LEU:O	2:DA:64:ARG:NH2	2.38	0.55
3:JA:850:LEU:HD13	3:JA:854:VAL:HB	1.86	0.55
27:UZ:24:CYS:HA	27:UZ:30:LEU:HB3	1.87	0.55
43:JK:459:SER:OG	43:JK:460:LYS:N	2.38	0.55
44:JM:71:ALA:O	44:JM:75:LYS:CB	2.54	0.55
53:DI:16:ALA:HB2	66:D3:354:C:H5''	1.88	0.55
67:D4:205:G:C2	67:D4:245:U:C2	2.93	0.55
1:CB:257:SER:HA	1:CB:261:LEU:HD23	1.87	0.55
6:UC:521:ARG:NH2	35:CL:1044:LEU:O	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:UE:148:LEU:HA	8:UE:167:SER:HB3	1.88	0.55
15:UL:144:ASN:HB3	15:UL:160:ARG:HG3	1.87	0.55
23:UT:340:ILE:HA	23:UT:343:ILE:HD12	1.88	0.55
25:UV:773:TYR:HE1	25:UV:1142:LYS:HD2	1.70	0.55
35:CL:130:ASP:OD1	35:CL:853:ARG:NH2	2.40	0.55
38:JC:57:GLU:O	53:DI:42:ARG:NH1	2.37	0.55
55:DL:104:HIS:ND1	66:D3:351:C:O2	2.40	0.55
7:UD:640:ILE:HD11	7:UD:749:SER:HA	1.87	0.55
13:UJ:600:LEU:HB3	13:UJ:604:LEU:HB2	1.87	0.55
15:UL:114:LEU:HG	15:UL:115:LEU:HD23	1.87	0.55
15:UL:673:VAL:HG22	15:UL:683:ILE:HG12	1.87	0.55
16:UM:585:ASN:ND2	16:UM:630:ASP:OD1	2.39	0.55
22:US:356:ALA:O	22:US:360:ARG:NH2	2.39	0.55
29:CE:358:LYS:HD2	29:CE:401:LEU:HD21	1.89	0.55
31:CH:164:GLN:HE22	31:CH:528:GLU:HG2	1.71	0.55
32:CI:94:ILE:HG12	33:CJ:58:TYR:HB3	1.88	0.55
3:JA:55:VAL:HG12	3:JA:121:MET:HB3	1.89	0.55
11:UH:545:ARG:HG2	11:UH:574:ARG:HH22	1.72	0.55
23:UT:1275:PHE:O	23:UT:1281:ARG:NH1	2.35	0.55
23:UT:1598:LEU:O	23:UT:1609:ARG:NH1	2.40	0.55
39:JF:106:LYS:NZ	39:JG:231:PRO:O	2.35	0.55
51:DG:70:PRO:HA	51:DG:98:ARG:HH22	1.70	0.55
55:DL:33:ARG:HH11	55:DL:61:THR:HG21	1.72	0.55
57:DO:29:HIS:HD2	57:DO:41:ARG:HG3	1.71	0.55
4:UA:708:ASP:OD1	4:UA:708:ASP:N	2.36	0.55
1:CB:181:VAL:HA	1:CB:184:VAL:HG12	1.88	0.55
5:UB:554:GLN:OE1	5:UB:559:ARG:N	2.39	0.55
18:UO:371:GLU:OE1	21:UR:287:SER:OG	2.23	0.55
33:CJ:121:ASN:ND2	66:D3:1608:U:O4	2.39	0.55
60:DW:24:GLN:OE1	60:DW:64:GLN:NE2	2.38	0.55
65:D2:228:A:H2'	65:D2:229:A:C8	2.41	0.55
66:D3:147:A:OP2	66:D3:166:C:N4	2.39	0.55
66:D3:1688:U:H3	66:D3:1713:G:H22	1.53	0.55
7:UD:477:LEU:HB2	7:UD:489:CYS:HB3	1.88	0.55
13:UJ:1499:ILE:HA	13:UJ:1502:LYS:HD2	1.89	0.55
16:UM:506:PHE:O	16:UM:517:ILE:HA	2.07	0.55
25:UV:1107:GLY:HA2	25:UV:1178:ASP:HB3	1.89	0.55
47:JP:238:THR:HG1	47:JP:264:THR:HG1	1.54	0.55
49:DE:116:ASP:OD1	49:DE:116:ASP:N	2.38	0.55
3:JA:87:GLU:HB2	3:JA:90:GLU:HG3	1.89	0.55
7:UD:476:LYS:HE2	7:UD:491:CYS:HA	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:UG:296:ARG:NH1	10:UG:315:LEU:O	2.39	0.55
13:UJ:364:ASN:N	13:UJ:364:ASN:OD1	2.39	0.55
13:UJ:1485:VAL:HB	13:UJ:1531:ILE:HD11	1.89	0.55
66:D3:340:U:H2'	66:D3:341:A:H8	1.72	0.55
66:D3:1512:G:H2'	66:D3:1513:G:C8	2.42	0.55
3:JA:515:LEU:HD11	3:JA:565:PHE:HB3	1.88	0.55
4:UA:350:SER:OG	4:UA:351:LEU:N	2.39	0.55
4:UA:482:SER:O	4:UA:486:SER:CA	2.55	0.55
15:UL:19:SER:OG	15:UL:20:ASN:N	2.35	0.55
16:UM:787:PRO:HG3	34:CK:495:ILE:HD11	1.87	0.55
20:UQ:144:VAL:HG22	20:UQ:153:ILE:HG12	1.88	0.55
22:US:386:LEU:O	22:US:390:SER:HB2	2.06	0.55
24:UU:488:ASN:O	24:UU:492:GLY:HA2	2.07	0.55
24:UU:847:LEU:HD13	42:JJ:269:ARG:HB3	1.89	0.55
25:UV:707:PHE:O	25:UV:918:ARG:NH1	2.40	0.55
35:CL:210:VAL:CG2	70:CL:2001:GTP:C4	2.78	0.55
35:CL:864:ASP:OD2	35:CL:868:ARG:NH1	2.39	0.55
66:D3:323:A:O2'	66:D3:346:G:N2	2.40	0.55
66:D3:924:A:H2'	66:D3:925:G:C8	2.42	0.55
11:UH:120:LEU:N	11:UH:168:LYS:O	2.40	0.55
22:US:215:ASN:HB3	22:US:218:LYS:HD3	1.88	0.55
30:CG:7:LYS:NZ	30:CG:62:GLU:OE2	2.36	0.55
66:D3:1697:G:H2'	66:D3:1698:G:C8	2.41	0.55
3:JA:742:PHE:HB3	3:JA:762:MET:HB3	1.89	0.54
4:UA:155:SER:OG	4:UA:203:GLN:NE2	2.39	0.54
7:UD:484:SER:O	7:UD:500:LEU:HB2	2.07	0.54
13:UJ:162:ASN:HD22	29:CE:412:VAL:HA	1.71	0.54
35:CL:935:VAL:HG22	35:CL:1002:ILE:HG22	1.89	0.54
53:DI:31:ARG:HB2	53:DI:56:ARG:HH22	1.72	0.54
11:UH:27:ASP:N	11:UH:357:HIS:O	2.40	0.54
13:UJ:73:LEU:HD13	13:UJ:121:LEU:HD21	1.88	0.54
23:UT:1648:GLU:OE2	23:UT:1651:ARG:NH1	2.40	0.54
25:UV:177:ASN:HD21	25:UV:179:LYS:HG2	1.71	0.54
25:UV:949:PHE:O	25:UV:960:LYS:NZ	2.40	0.54
42:JJ:117:TYR:HA	42:JJ:120:LEU:HD12	1.89	0.54
51:DG:14:LYS:HD2	51:DG:123:GLY:HA3	1.89	0.54
52:DH:159:VAL:O	52:DH:163:ASP:HB2	2.07	0.54
55:DL:17:PRO:HG2	66:D3:249:U:H3	1.73	0.54
66:D3:48:G:C5	66:D3:432:G:N2	2.75	0.54
66:D3:1111:G:H2'	66:D3:1112:G:C8	2.42	0.54
66:D3:1202:A:H3'	66:D3:1203:A:H8	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:UA:215:VAL:HG11	4:UA:289:LEU:HD11	1.88	0.54
5:UB:453:ASN:HA	5:UB:456:ILE:HD12	1.90	0.54
7:UD:155:LYS:HG3	7:UD:169:ASP:HB3	1.90	0.54
8:UE:436:THR:OG1	22:US:297:ASP:OD2	2.24	0.54
11:UH:592:ARG:HE	11:UH:640:LEU:HD21	1.72	0.54
13:UJ:136:LEU:O	13:UJ:140:LEU:HB2	2.08	0.54
13:UJ:194:SER:HB2	24:UU:335:VAL:HG11	1.88	0.54
23:UT:1171:VAL:HA	23:UT:1174:ILE:HD12	1.89	0.54
23:UT:1616:LEU:HD22	23:UT:1635:ILE:HD13	1.87	0.54
30:CF:62:GLU:HA	30:CF:65:LEU:HB2	1.89	0.54
35:CL:951:MET:SD	35:CL:987:TYR:OH	2.58	0.54
38:JC:103:ASP:HB3	38:JC:117:LEU:HB3	1.90	0.54
53:DI:38:ILE:HG13	53:DI:96:LEU:HD11	1.88	0.54
53:DI:116:HIS:O	53:DI:146:ARG:NH1	2.40	0.54
66:D3:1270:G:H2'	66:D3:1271:G:C8	2.42	0.54
5:UB:589:GLU:O	22:US:310:LYS:NZ	2.40	0.54
14:UK:11:LYS:NZ	66:D3:573:C:OP1	2.40	0.54
25:UV:177:ASN:HB3	25:UV:213:LEU:HD13	1.89	0.54
32:CI:42:GLU:O	32:CI:46:LYS:HG2	2.07	0.54
38:JC:121:ARG:NH1	38:JC:137:ILE:O	2.40	0.54
38:JC:237:ARG:HH22	38:JC:288:LYS:HG3	1.72	0.54
38:JC:247:THR:OG1	38:JC:248:SER:N	2.39	0.54
45:JN:226:ASP:N	45:JN:226:ASP:OD1	2.38	0.54
45:JN:249:ARG:HH12	45:JN:281:LYS:HE3	1.72	0.54
49:DE:133:LYS:HE3	49:DE:134:LYS:HG3	1.89	0.54
66:D3:23:G:C6	66:D3:603:U:N3	2.75	0.54
66:D3:377:G:H5''	66:D3:378:A:H5'	1.87	0.54
1:CA:258:HIS:HD1	1:CA:320:TYR:HH	1.56	0.54
3:JA:731:GLN:NE2	3:JA:732:SER:OG	2.40	0.54
4:UA:29:LEU:HD21	4:UA:327:LEU:HD21	1.89	0.54
5:UB:701:ALA:HA	22:US:417:HIS:HB2	1.90	0.54
9:UF:41:HIS:NE2	47:JP:21:GLU:O	2.33	0.54
16:UM:26:SER:OG	16:UM:28:ASN:O	2.26	0.54
20:UQ:167:SER:OG	65:D2:64:U:OP2	2.25	0.54
23:UT:220:GLU:HG3	23:UT:268:PRO:HG3	1.88	0.54
23:UT:1127:PHE:HB3	23:UT:1130:ALA:HB3	1.89	0.54
24:UU:354:SER:O	24:UU:631:ASN:ND2	2.41	0.54
36:CM:155:LYS:HG2	36:CM:234:ASN:HA	1.89	0.54
38:JC:223:ASN:HB3	38:JC:229:PHE:HE1	1.73	0.54
49:DE:98:ASN:HB2	49:DE:114:ILE:O	2.07	0.54
51:DG:191:ARG:NH1	66:D3:177:U:O2'	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:DL:66:ILE:O	66:D3:246:G:N2	2.41	0.54
65:D2:182:G:H2'	65:D2:183:A:C8	2.43	0.54
66:D3:1276:U:C4	66:D3:1433:G:O6	2.61	0.54
66:D3:1739:C:H2'	66:D3:1740:A:H8	1.71	0.54
66:D3:1782:A:OP2	66:D3:1783:C:N4	2.35	0.54
1:CA:142:ARG:NH1	1:CA:186:ASP:OD2	2.40	0.54
3:JB:25:ILE:O	3:JB:198:CYS:HA	2.08	0.54
5:UB:562:PRO:HA	5:UB:565:VAL:HG12	1.89	0.54
11:UH:665:GLN:HA	11:UH:668:ILE:HG22	1.89	0.54
13:UJ:563:LEU:HD11	13:UJ:600:LEU:HD12	1.90	0.54
18:UO:216:GLU:N	18:UO:229:CYS:O	2.36	0.54
20:UQ:869:MET:SD	67:D4:332:G:N2	2.76	0.54
23:UT:462:ARG:NH2	23:UT:463:ASP:OD1	2.40	0.54
24:UU:605:LEU:HD12	24:UU:628:VAL:HG11	1.90	0.54
3:JA:505:ARG:NH1	3:JA:646:SER:OG	2.41	0.54
7:UD:417:VAL:HG11	7:UD:460:LEU:HD13	1.88	0.54
21:UR:242:ASN:ND2	21:UR:584:GLY:O	2.40	0.54
25:UV:1178:ASP:N	25:UV:1178:ASP:OD1	2.40	0.54
5:UB:703:GLN:HE22	22:US:487:PRO:HA	1.72	0.54
13:UJ:1634:ARG:NH2	67:D4:154:C:O2'	2.41	0.54
16:UM:532:HIS:NE2	16:UM:554:ASP:OD1	2.41	0.54
28:CD:244:ASP:OD1	28:CD:244:ASP:N	2.37	0.54
28:CD:302:ASN:ND2	28:CD:397:SER:O	2.33	0.54
52:DH:127:GLU:OE2	56:DN:21:ASN:ND2	2.41	0.54
2:DA:71:ALA:HB2	2:DA:80:SER:HA	1.88	0.54
21:UR:249:SER:OG	21:UR:250:ALA:N	2.41	0.54
23:UT:1106:LEU:HD11	23:UT:1150:ILE:HG12	1.89	0.54
25:UV:180:LYS:HD3	25:UV:181:PRO:HD2	1.89	0.54
25:UV:182:ASP:HB2	25:UV:208:THR:HB	1.90	0.54
49:DE:136:VAL:HG21	49:DE:148:ARG:HE	1.73	0.54
60:DW:24:GLN:HA	60:DW:63:VAL:O	2.07	0.54
22:US:146:LYS:HE3	65:D2:124:A:C4'	2.30	0.54
24:UU:131:SER:HB3	24:UU:170:LEU:HD11	1.89	0.54
25:UV:309:LEU:HB2	25:UV:312:ARG:HG2	1.90	0.54
25:UV:794:ASP:OD1	25:UV:858:ARG:NH2	2.39	0.54
30:CG:25:GLN:NE2	31:CH:323:ASP:OD1	2.41	0.54
47:JP:263:ARG:HG3	47:JP:282:GLU:HG3	1.90	0.54
53:DI:62:THR:HG21	53:DI:75:LYS:HE3	1.90	0.54
58:DQ:22:VAL:HG22	58:DQ:65:ILE:HG12	1.90	0.54
65:D2:423:C:H2'	65:D2:424:G:H8	1.71	0.54
66:D3:273:G:O6	66:D3:283:U:O4	2.26	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:D3:318:U:O2	66:D3:346:G:N2	2.38	0.54
5:UB:422:LEU:HD13	5:UB:466:TYR:HE2	1.73	0.53
13:UJ:760:PHE:O	13:UJ:768:LYS:NZ	2.38	0.53
15:UL:299:ARG:HD3	15:UL:317:ILE:HG23	1.90	0.53
22:US:495:MET:O	22:US:499:LEU:HB2	2.07	0.53
23:UT:731:SER:O	23:UT:737:ARG:NH2	2.41	0.53
23:UT:1211:ILE:HD12	23:UT:1216:VAL:HG21	1.90	0.53
24:UU:93:ALA:HB2	24:UU:121:LEU:HD13	1.90	0.53
25:UV:401:LEU:O	25:UV:410:LYS:NZ	2.36	0.53
25:UV:870:ALA:O	25:UV:875:LYS:NZ	2.38	0.53
25:UV:1043:SER:OG	25:UV:1045:ASN:OD1	2.26	0.53
28:CD:110:LYS:HE3	47:JP:157:ASN:HD22	1.74	0.53
29:CE:287:LEU:HD13	29:CE:371:LEU:HG	1.90	0.53
52:DH:34:LEU:HA	52:DH:37:GLU:HB2	1.90	0.53
54:DJ:148:VAL:HG11	54:DJ:156:ILE:HD11	1.90	0.53
61:DX:47:SER:OG	61:DX:48:HIS:ND1	2.39	0.53
67:D4:49:C:C4	67:D4:50:U:O4	2.61	0.53
3:JA:23:ARG:HG2	3:JA:145:GLY:H	1.73	0.53
1:CB:249:GLN:NE2	1:CB:270:SER:O	2.41	0.53
21:UR:32:ASP:OD1	21:UR:32:ASP:N	2.41	0.53
23:UT:1119:TYR:HE2	23:UT:1157:ILE:HG13	1.71	0.53
28:CD:297:HIS:NE2	28:CD:309:GLU:OE2	2.42	0.53
30:CG:96:PRO:HD3	31:CH:552:TRP:HA	1.89	0.53
51:DG:4:ASN:HB3	51:DG:110:ALA:HA	1.91	0.53
51:DG:155:ASP:N	51:DG:155:ASP:OD1	2.41	0.53
53:DI:172:ARG:NH1	66:D3:330:G:OP2	2.41	0.53
66:D3:233:C:H4'	66:D3:234:G:H5''	1.91	0.53
66:D3:1726:G:H2'	66:D3:1727:G:C8	2.43	0.53
7:UD:488:ILE:O	7:UD:495:VAL:HA	2.07	0.53
15:UL:421:THR:OG1	15:UL:423:LYS:NZ	2.41	0.53
31:CH:304:ILE:HG12	31:CH:338:THR:HG21	1.90	0.53
35:CL:773:THR:HG23	35:CL:774:PRO:HD3	1.90	0.53
37:CN:207:VAL:HG22	37:CN:213:THR:HG22	1.90	0.53
44:JM:71:ALA:O	44:JM:75:LYS:HB2	2.08	0.53
44:JM:213:ARG:NH1	66:D3:1491:U:OP2	2.40	0.53
51:DG:132:ARG:NH1	66:D3:149:C:O2'	2.42	0.53
51:DG:193:LEU:O	51:DG:197:ASN:ND2	2.41	0.53
66:D3:331:A:N1	66:D3:338:C:N3	2.56	0.53
3:JA:82:LYS:HE2	62:DY:114:ARG:HD3	1.91	0.53
3:JA:483:GLU:O	3:JA:487:ASN:ND2	2.41	0.53
5:UB:649:THR:HG23	5:UB:650:VAL:HG23	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:UD:226:LEU:O	7:UD:227:HIS:ND1	2.41	0.53
15:UL:532:ASP:OD2	15:UL:552:ASP:N	2.39	0.53
20:UQ:322:SER:HA	20:UQ:333:PHE:HB3	1.90	0.53
23:UT:1405:GLY:O	23:UT:1414:GLN:NE2	2.41	0.53
24:UU:496:LYS:HG2	50:DF:18:GLU:HG2	1.90	0.53
25:UV:725:SER:O	25:UV:729:ASN:ND2	2.41	0.53
27:UZ:231:GLN:NE2	48:JQ:189:PRO:O	2.41	0.53
30:CG:95:ARG:HD3	30:CG:96:PRO:HD2	1.89	0.53
49:DE:101:LEU:HD11	49:DE:109:PHE:HB3	1.90	0.53
66:D3:428:A:N3	66:D3:440:U:O2'	2.35	0.53
4:UA:575:GLU:N	4:UA:575:GLU:OE1	2.42	0.53
7:UD:522:SER:HB3	7:UD:529:ASN:HD21	1.74	0.53
10:UG:482:ASP:N	10:UG:482:ASP:OD1	2.42	0.53
16:UM:510:SER:OG	16:UM:511:TYR:N	2.40	0.53
21:UR:346:TYR:HE2	21:UR:393:LEU:HD23	1.73	0.53
21:UR:381:ASN:OD1	21:UR:381:ASN:N	2.41	0.53
23:UT:1205:ILE:HG12	23:UT:1210:PHE:HE1	1.74	0.53
24:UU:51:VAL:HG12	24:UU:60:ILE:HG12	1.90	0.53
27:UZ:229:ARG:HA	27:UZ:233:GLY:H	1.72	0.53
45:JN:267:VAL:HG11	45:JN:273:ARG:HA	1.88	0.53
55:DL:125:VAL:HG12	55:DL:139:VAL:HA	1.89	0.53
66:D3:70:C:H2'	66:D3:71:A:H8	1.73	0.53
66:D3:269:G:O6	66:D3:287:G:O6	2.27	0.53
66:D3:369:A:N6	66:D3:373:G:N1	2.56	0.53
2:DA:241:GLY:HA3	25:UV:656:ARG:HB3	1.90	0.53
4:UA:120:GLN:HG2	4:UA:141:VAL:HG22	1.90	0.53
5:UB:576:ILE:HD13	5:UB:671:TYR:CZ	2.44	0.53
9:UF:165:ARG:NH1	9:UF:189:GLU:OE1	2.41	0.53
13:UJ:699:ARG:HH21	13:UJ:744:ASP:HB2	1.74	0.53
13:UJ:1692:VAL:O	13:UJ:1695:MET:O	2.25	0.53
14:UK:111:ARG:HE	14:UK:212:LYS:HB2	1.74	0.53
15:UL:406:LEU:HD13	15:UL:445:VAL:HG12	1.89	0.53
21:UR:427:ASN:OD1	21:UR:428:ALA:N	2.42	0.53
25:UV:396:LEU:HD21	25:UV:429:LEU:HD21	1.91	0.53
33:CJ:101:SER:OG	33:CJ:116:ARG:NH2	2.42	0.53
35:CL:805:ASN:OD1	35:CL:1026:LYS:NZ	2.35	0.53
37:CN:219:ASN:ND2	66:D3:1056:U:O2	2.34	0.53
39:JG:175:CYS:SG	39:JG:176:ARG:N	2.82	0.53
66:D3:1592:A:H2'	66:D3:1593:A:H8	1.74	0.53
67:D4:153:C:H2'	67:D4:154:C:C6	2.43	0.53
6:UC:594:GLU:HG3	6:UC:598:ILE:HD11	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:UJ:705:SER:O	13:UJ:709:ASN:ND2	2.41	0.53
18:UO:257:CYS:SG	18:UO:258:LEU:N	2.82	0.53
23:UT:139:ALA:HA	23:UT:142:PHE:HB2	1.90	0.53
23:UT:1441:LEU:O	23:UT:1468:ARG:NH2	2.41	0.53
25:UV:1189:LEU:O	25:UV:1194:HIS:NE2	2.42	0.53
37:CN:46:ASN:ND2	37:CN:48:ASN:OD1	2.41	0.53
51:DG:68:LEU:HG	51:DG:101:ILE:HD11	1.91	0.53
54:DJ:6:ARG:NH1	66:D3:38:C:O3'	2.41	0.53
65:D2:20:C:H2'	65:D2:21:A:C8	2.42	0.53
66:D3:231:U:O2'	66:D3:233:C:OP2	2.24	0.53
7:UD:117:ILE:HD11	7:UD:144:ILE:HB	1.91	0.53
7:UD:481:ILE:HB	7:UD:485:LYS:HG3	1.89	0.53
8:UE:443:GLN:HE22	22:US:333:GLU:H	1.57	0.53
8:UE:492:THR:OG1	8:UE:533:ARG:NH2	2.42	0.53
9:UF:173:ARG:NH2	17:UN:335:GLN:OE1	2.39	0.53
10:UG:552:ARG:NH1	37:CN:195:GLU:OE2	2.39	0.53
15:UL:382:THR:O	15:UL:383:HIS:C	2.46	0.53
22:US:397:THR:HG22	22:US:499:LEU:HA	1.90	0.53
23:UT:1358:LYS:O	23:UT:1364:ARG:NH1	2.42	0.53
31:CH:164:GLN:NE2	31:CH:528:GLU:O	2.41	0.53
38:JC:223:ASN:HD21	38:JC:227:ARG:HB2	1.74	0.53
42:JJ:98:LYS:HG2	42:JJ:138:GLU:HG2	1.89	0.53
66:D3:855:A:OP2	66:D3:859:A:N6	2.42	0.53
66:D3:1662:G:H2'	66:D3:1663:G:C8	2.44	0.53
3:JA:808:SER:OG	3:JA:809:LYS:NZ	2.42	0.53
1:CB:166:PRO:HA	1:CB:188:VAL:HA	1.90	0.53
1:CB:184:VAL:HA	1:CB:187:VAL:HG12	1.91	0.53
7:UD:450:VAL:HG13	7:UD:465:LEU:HB2	1.91	0.53
10:UG:241:ASN:O	10:UG:245:ALA:N	2.41	0.53
11:UH:71:SER:HA	11:UH:77:ALA:HA	1.91	0.53
18:UO:127:THR:HA	18:UO:144:SER:HA	1.89	0.53
23:UT:870:LEU:HD11	23:UT:888:LEU:HB3	1.91	0.53
25:UV:369:TRP:HE3	25:UV:370:LEU:HD22	1.73	0.53
25:UV:1103:ARG:HG2	25:UV:1179:LYS:HG2	1.91	0.53
31:CH:523:LYS:O	31:CH:541:ALA:HA	2.09	0.53
62:DY:41:ARG:NH2	62:DY:52:LYS:O	2.41	0.53
66:D3:114:C:N4	66:D3:245:U:O2	2.41	0.53
66:D3:540:G:C2	66:D3:542:A:C6	2.96	0.53
67:D4:3:C:H2'	67:D4:4:G:H8	1.74	0.53
1:CA:160:ASP:HB2	6:UC:603:THR:HG21	1.91	0.53
3:JA:81:ILE:HD11	3:JA:88:VAL:HA	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:JA:614:ILE:HD11	3:JA:634:ARG:HD3	1.90	0.53
15:UL:78:LYS:NZ	15:UL:657:GLN:O	2.37	0.53
19:UP:194:LYS:HD2	19:UP:199:ILE:HG13	1.91	0.53
20:UQ:467:GLN:HE22	20:UQ:470:TYR:HB2	1.74	0.53
29:CE:379:ASP:OD1	29:CE:379:ASP:N	2.34	0.53
35:CL:82:LYS:H	70:CL:2001:GTP:PB	2.32	0.53
35:CL:840:LYS:NZ	66:D3:578:U:OP2	2.42	0.53
38:JC:169:LYS:HE3	38:JC:171:ARG:HB2	1.91	0.53
47:JP:201:ILE:HD12	47:JP:225:LEU:HD22	1.91	0.53
3:JA:906:SER:OG	3:JA:907:ASN:N	2.42	0.52
5:UB:647:ILE:HA	5:UB:651:TRP:HB2	1.90	0.52
9:UF:198:ASN:HA	9:UF:201:LYS:HD3	1.90	0.52
13:UJ:44:ASP:OD1	13:UJ:45:TYR:N	2.39	0.52
13:UJ:1358:CYS:HA	13:UJ:1361:VAL:HG12	1.90	0.52
14:UK:235:ASP:O	14:UK:238:GLY:N	2.32	0.52
15:UL:135:ARG:HH21	15:UL:149:ASP:HB3	1.74	0.52
23:UT:465:PHE:HA	23:UT:468:ALA:HB2	1.91	0.52
23:UT:1386:GLU:HA	23:UT:1389:LYS:HG2	1.90	0.52
32:CI:162:ASP:OD1	32:CI:162:ASP:N	2.42	0.52
35:CL:858:PRO:HA	35:CL:885:PHE:HB3	1.90	0.52
35:CL:869:THR:OG1	35:CL:869:THR:O	2.28	0.52
39:JF:121:LEU:HB3	39:JF:163:ILE:O	2.09	0.52
39:JG:56:SER:HG	39:JG:63:ASP:N	2.07	0.52
39:JG:97:LEU:HD11	39:JG:132:ARG:HG2	1.91	0.52
39:JG:164:LYS:O	39:JG:170:HIS:NE2	2.41	0.52
44:JM:112:ASN:HD21	67:D4:87:G:H22	1.55	0.52
56:DN:87:ASP:N	56:DN:87:ASP:OD1	2.42	0.52
3:JA:881:GLN:HE22	3:JA:915:LYS:HB2	1.74	0.52
7:UD:374:THR:OG1	7:UD:375:VAL:N	2.41	0.52
8:UE:167:SER:O	8:UE:167:SER:OG	2.25	0.52
10:UG:160:LEU:HD12	10:UG:161:GLN:HG2	1.91	0.52
13:UJ:193:THR:HG22	13:UJ:241:ILE:HD12	1.91	0.52
16:UM:746:TRP:O	16:UM:752:THR:OG1	2.28	0.52
20:UQ:244:ILE:HD12	20:UQ:283:VAL:HG11	1.91	0.52
23:UT:492:GLN:HE22	23:UT:495:GLU:HB2	1.74	0.52
23:UT:969:SER:HA	23:UT:972:LEU:HB2	1.90	0.52
23:UT:1616:LEU:HD22	23:UT:1635:ILE:HG21	1.91	0.52
25:UV:978:ASP:N	25:UV:978:ASP:OD1	2.41	0.52
26:UX:69:THR:HG22	26:UX:106:LEU:HG	1.90	0.52
38:JC:115:VAL:HG21	38:JC:153:LEU:HD11	1.91	0.52
38:JC:136:ARG:NH1	66:D3:340:U:OP1	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:DO:79:VAL:O	57:DO:113:GLY:N	2.33	0.52
3:JA:173:ARG:HH22	3:JA:183:ARG:HG2	1.74	0.52
8:UE:184:PHE:HE1	8:UE:220:GLY:HA2	1.73	0.52
13:UJ:1553:ARG:O	13:UJ:1557:ASP:HB2	2.10	0.52
15:UL:449:THR:OG1	15:UL:451:ASN:O	2.26	0.52
18:UO:440:GLU:O	18:UO:444:ASN:ND2	2.41	0.52
20:UQ:141:LEU:HD21	20:UQ:144:VAL:HG23	1.91	0.52
23:UT:122:LEU:HA	23:UT:125:TYR:HB3	1.92	0.52
23:UT:1383:ASN:HB3	23:UT:1386:GLU:HG2	1.91	0.52
24:UU:28:ARG:NH1	24:UU:383:ASP:OD2	2.37	0.52
25:UV:490:GLU:OE1	25:UV:580:TYR:OH	2.26	0.52
54:DJ:119:ALA:HB1	54:DJ:124:HIS:HB3	1.91	0.52
66:D3:1692:G:C6	66:D3:1710:U:N3	2.77	0.52
3:JA:183:ARG:NH1	3:JA:557:SER:O	2.37	0.52
4:UA:428:THR:OG1	4:UA:429:GLU:OE1	2.26	0.52
13:UJ:724:VAL:O	13:UJ:755:ARG:NH2	2.43	0.52
16:UM:403:ILE:HG13	16:UM:415:TRP:HB2	1.91	0.52
23:UT:969:SER:O	23:UT:972:LEU:O	2.28	0.52
23:UT:1610:MET:HB2	23:UT:1657:THR:HG21	1.91	0.52
47:JP:281:ASN:HD22	47:JP:287:TYR:HE2	1.55	0.52
66:D3:193:U:H2'	66:D3:194:U:H2'	1.90	0.52
66:D3:1541:G:N2	66:D3:1569:A:N1	2.55	0.52
3:JA:125:GLN:HA	3:JA:151:LEU:HD13	1.92	0.52
8:UE:65:TRP:HA	8:UE:76:ILE:HG22	1.91	0.52
13:UJ:1686:ILE:HA	13:UJ:1689:LYS:HZ1	1.74	0.52
14:UK:166:LEU:HD23	14:UK:170:GLN:HB3	1.92	0.52
16:UM:602:TRP:HB3	16:UM:609:CYS:HA	1.91	0.52
18:UO:200:SER:OG	18:UO:201:SER:N	2.43	0.52
20:UQ:616:SER:HA	20:UQ:664:LEU:HD11	1.91	0.52
23:UT:1017:LEU:HD22	23:UT:1022:VAL:HG21	1.92	0.52
28:CD:170:ASN:HD21	29:CE:190:TRP:HE1	1.57	0.52
29:CE:339:TYR:HE1	29:CE:356:LYS:HB3	1.74	0.52
40:JH:399:ILE:HA	40:JH:409:ALA:HB1	1.91	0.52
51:DG:31:ARG:HE	51:DG:34:GLN:HE22	1.58	0.52
51:DG:57:ASP:HA	51:DG:106:LEU:HA	1.92	0.52
55:DL:123:VAL:HG12	55:DL:142:VAL:HA	1.92	0.52
66:D3:1655:A:N6	66:D3:1745:G:H22	2.08	0.52
8:UE:440:ILE:HD11	8:UE:452:LEU:HD11	1.91	0.52
9:UF:169:GLN:NE2	9:UF:185:TYR:OH	2.43	0.52
13:UJ:600:LEU:HD23	13:UJ:603:LYS:HE2	1.92	0.52
13:UJ:1516:PHE:HB2	13:UJ:1521:ILE:HD11	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:UL:181:SER:OG	15:UL:183:ASP:OD1	2.28	0.52
15:UL:381:LYS:HE2	15:UL:384:THR:HG21	1.90	0.52
16:UM:226:ASN:HD21	16:UM:228:LYS:HE3	1.73	0.52
21:UR:272:LEU:HD11	21:UR:314:THR:HG21	1.91	0.52
23:UT:1493:VAL:HG11	23:UT:1547:LEU:HD11	1.90	0.52
23:UT:1661:ILE:O	23:UT:1665:LEU:HB2	2.09	0.52
24:UU:743:ARG:NH2	34:CK:482:LEU:O	2.32	0.52
25:UV:441:GLN:HE22	25:UV:470:LYS:H	1.56	0.52
27:UZ:173:PRO:HA	27:UZ:176:VAL:HG22	1.90	0.52
28:CD:48:ILE:HD11	28:CD:127:LEU:HD13	1.91	0.52
37:CN:38:PHE:HB2	37:CN:56:VAL:HB	1.91	0.52
38:JC:112:THR:HG23	38:JC:113:LYS:HG3	1.91	0.52
47:JP:327:LYS:HG2	47:JP:350:HIS:H	1.74	0.52
54:DJ:143:ILE:HG22	54:DJ:145:SER:H	1.75	0.52
3:JA:541:TYR:O	3:JA:637:ARG:NH1	2.43	0.52
3:JA:841:ARG:NH1	3:JA:854:VAL:O	2.42	0.52
5:UB:443:LYS:HB2	5:UB:448:PHE:HB2	1.91	0.52
8:UE:443:GLN:HE21	18:UO:252:ASN:HD21	1.56	0.52
15:UL:149:ASP:OD1	15:UL:149:ASP:N	2.42	0.52
22:US:254:LYS:NZ	22:US:287:PRO:O	2.36	0.52
23:UT:30:PRO:HA	23:UT:33:ASN:HB3	1.92	0.52
23:UT:1662:SER:O	23:UT:1665:LEU:C	2.47	0.52
27:UZ:204:ILE:HG13	27:UZ:205:GLN:HG3	1.92	0.52
52:DH:6:ALA:HA	52:DH:9:LEU:HG	1.92	0.52
3:JA:884:ILE:HD12	3:JA:898:ILE:HD12	1.90	0.52
8:UE:234:GLU:HB3	8:UE:247:THR:HB	1.90	0.52
12:UI:436:THR:HA	12:UI:439:LYS:HG2	1.92	0.52
13:UJ:646:ASN:HB2	13:UJ:649:VAL:HB	1.91	0.52
20:UQ:363:ASN:ND2	20:UQ:366:ASN:O	2.34	0.52
20:UQ:623:PHE:HE2	20:UQ:664:LEU:HD13	1.74	0.52
23:UT:1372:MET:HA	23:UT:1375:ILE:HD12	1.92	0.52
47:JP:260:GLN:NE2	47:JP:289:TYR:OH	2.37	0.52
53:DI:64:ASN:O	53:DI:180:ASP:HA	2.10	0.52
58:DQ:42:GLU:OE1	66:D3:1528:U:O2'	2.26	0.52
66:D3:1140:G:H2'	66:D3:1141:G:C8	2.45	0.52
66:D3:1690:G:C2	66:D3:1712:A:N1	2.77	0.52
66:D3:1785:U:H2'	66:D3:1786:G:H8	1.75	0.52
5:UB:495:ASN:HD22	5:UB:618:THR:HA	1.75	0.52
5:UB:600:LEU:O	5:UB:675:TYR:OH	2.28	0.52
7:UD:491:CYS:O	7:UD:530:ARG:NH2	2.43	0.52
13:UJ:1492:SER:OG	13:UJ:1493:ALA:N	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:UL:7:ARG:HH11	15:UL:651:GLN:HE21	1.56	0.52
15:UL:130:ASP:O	15:UL:134:THR:N	2.43	0.52
15:UL:606:ASP:OD1	15:UL:606:ASP:N	2.41	0.52
21:UR:134:LYS:HA	21:UR:156:ASN:HA	1.92	0.52
23:UT:262:ALA:HB1	23:UT:272:VAL:HG12	1.92	0.52
23:UT:803:ASP:OD1	23:UT:828:ARG:NH2	2.43	0.52
34:CK:297:LEU:HD12	34:CK:301:GLU:HG2	1.92	0.52
39:JF:38:THR:OG1	39:JF:40:ARG:NH2	2.42	0.52
57:DO:41:ARG:NH2	66:D3:896:U:O2	2.41	0.52
23:UT:51:PHE:HZ	23:UT:67:ALA:HA	1.75	0.52
35:CL:286:THR:O	35:CL:297:SER:CB	2.56	0.52
36:CM:114:PHE:O	36:CM:169:VAL:HA	2.10	0.52
38:JC:248:SER:HA	38:JC:273:ASP:HA	1.92	0.52
49:DE:68:ARG:HE	49:DE:76:VAL:HG11	1.75	0.52
58:DQ:58:ASP:OD1	58:DQ:58:ASP:N	2.43	0.52
65:D2:466:A:N6	67:D4:51:C:N4	2.58	0.52
66:D3:760:A:H3'	66:D3:761:G:H4'	1.90	0.52
6:UC:580:ARG:HD2	26:UX:49:SER:HA	1.92	0.51
7:UD:127:ASP:HB2	7:UD:134:LEU:HB2	1.93	0.51
12:UI:437:ILE:HG12	12:UI:452:LEU:HD11	1.92	0.51
13:UJ:1380:LEU:HD21	13:UJ:1400:ILE:HA	1.93	0.51
20:UQ:311:TYR:OH	21:UR:394:TRP:O	2.25	0.51
23:UT:318:LEU:HA	23:UT:321:ILE:HD12	1.92	0.51
23:UT:322:VAL:O	23:UT:368:ASN:ND2	2.40	0.51
25:UV:252:LEU:HB3	25:UV:270:ILE:HD11	1.91	0.51
50:DF:133:VAL:HG22	50:DF:198:LEU:HD13	1.92	0.51
66:D3:368:U:O2	66:D3:373:G:N2	2.43	0.51
1:CA:297:ARG:HH11	1:CA:322:ARG:HG3	1.75	0.51
2:DA:4:GLY:HA3	57:DO:49:LYS:HG3	1.91	0.51
3:JA:920:MET:SD	3:JA:920:MET:N	2.83	0.51
1:CB:105:LEU:HD21	1:CB:143:VAL:HG23	1.93	0.51
7:UD:374:THR:OG1	7:UD:757:ARG:NH1	2.42	0.51
7:UD:385:ASN:HD21	7:UD:387:GLU:HB2	1.75	0.51
15:UL:222:THR:OG1	15:UL:223:ASP:OD1	2.27	0.51
22:US:179:GLU:HA	22:US:182:GLU:HG3	1.92	0.51
23:UT:356:ASP:N	23:UT:356:ASP:OD1	2.42	0.51
25:UV:1135:ASN:OD1	25:UV:1137:ASN:ND2	2.43	0.51
66:D3:207:U:O4	66:D3:258:C:N3	2.43	0.51
3:JA:219:LEU:HD12	3:JA:220:PRO:HD2	1.92	0.51
3:JA:513:CYS:HB3	3:JA:567:LEU:HD11	1.92	0.51
4:UA:658:ASP:N	4:UA:658:ASP:OD1	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:UD:586:THR:O	7:UD:589:ASN:N	2.44	0.51
13:UJ:698:ASN:ND2	13:UJ:701:SER:OG	2.44	0.51
23:UT:492:GLN:NE2	23:UT:495:GLU:OE1	2.42	0.51
23:UT:765:ARG:HE	23:UT:768:THR:HG21	1.75	0.51
23:UT:1617:VAL:HA	23:UT:1620:VAL:HG12	1.92	0.51
38:JC:78:LYS:HA	53:DI:32:GLN:HG2	1.92	0.51
45:JN:166:SER:HB2	46:JO:158:LEU:HD21	1.92	0.51
49:DE:49:ARG:NH2	66:D3:448:C:OP2	2.43	0.51
51:DG:78:THR:HG22	51:DG:92:ARG:HG3	1.91	0.51
66:D3:311:U:C2	66:D3:314:C:N4	2.79	0.51
1:CA:304:LEU:HD12	6:UC:605:SER:HB3	1.92	0.51
3:JB:278:THR:O	3:JB:465:LEU:HA	2.11	0.51
3:JB:635:ILE:N	3:JB:724:GLY:O	2.44	0.51
15:UL:629:ASN:HD22	15:UL:643:ASP:HA	1.75	0.51
16:UM:552:SER:HB3	16:UM:556:THR:O	2.11	0.51
18:UO:244:LYS:NZ	18:UO:247:GLU:OE1	2.42	0.51
18:UO:432:TYR:O	18:UO:470:TYR:OH	2.29	0.51
27:UZ:34:LYS:HE2	27:UZ:204:ILE:HD11	1.93	0.51
65:D2:116:U:O2	65:D2:130:G:N2	2.36	0.51
66:D3:161:U:H2'	66:D3:162:A:H8	1.75	0.51
66:D3:505:A:N6	66:D3:586:G:N7	2.44	0.51
3:JA:35:ASN:O	3:JA:39:ASN:ND2	2.44	0.51
1:CB:198:GLU:O	1:CB:221:ILE:HA	2.11	0.51
7:UD:290:THR:OG1	7:UD:291:ASP:N	2.44	0.51
8:UE:281:ILE:HG12	8:UE:328:VAL:HB	1.93	0.51
13:UJ:366:ILE:HA	13:UJ:369:LEU:HD12	1.92	0.51
18:UO:31:THR:HG22	18:UO:32:SER:H	1.74	0.51
18:UO:90:ARG:NH2	18:UO:137:ASN:O	2.44	0.51
20:UQ:362:GLU:HB2	20:UQ:454:ILE:HD11	1.91	0.51
22:US:384:ALA:O	22:US:387:THR:OG1	2.23	0.51
23:UT:418:GLN:HE21	23:UT:451:VAL:HG13	1.75	0.51
31:CH:256:ARG:NH2	31:CH:282:GLU:OE1	2.44	0.51
42:JJ:239:HIS:ND1	42:JJ:270:LEU:HD21	2.25	0.51
52:DH:7:LYS:O	52:DH:42:GLN:NE2	2.44	0.51
52:DH:103:SER:OG	52:DH:104:ARG:N	2.43	0.51
65:D2:178:G:O6	65:D2:219:U:O4	2.29	0.51
65:D2:398:A:H2'	65:D2:399:U:C6	2.46	0.51
11:UH:80:ALA:HA	11:UH:88:ASP:HA	1.92	0.51
13:UJ:1581:LYS:O	13:UJ:1585:ASN:ND2	2.44	0.51
15:UL:264:ASN:HD22	15:UL:268:LYS:HB3	1.74	0.51
20:UQ:363:ASN:ND2	20:UQ:368:ASP:OD2	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:UQ:710:LEU:HD22	20:UQ:722:LEU:HD22	1.91	0.51
21:UR:251:ILE:O	21:UR:566:THR:OG1	2.27	0.51
23:UT:1592:PRO:HA	23:UT:1595:SER:HB2	1.92	0.51
24:UU:270:SER:HA	24:UU:293:GLU:HG3	1.92	0.51
35:CL:288:VAL:HG12	35:CL:814:GLY:HA2	1.92	0.51
66:D3:1524:A:H2'	66:D3:1525:A:C8	2.46	0.51
66:D3:1541:G:N2	66:D3:1570:A:N1	2.56	0.51
3:JA:913:PHE:HA	3:JA:916:ILE:HD12	1.92	0.51
7:UD:87:GLN:HB3	7:UD:378:TYR:CD2	2.45	0.51
7:UD:232:ASP:HB3	21:UR:381:ASN:HD21	1.76	0.51
8:UE:504:TRP:HA	8:UE:507:ILE:HD12	1.93	0.51
16:UM:30:LYS:CB	16:UM:45:LEU:O	2.58	0.51
23:UT:636:ARG:NH2	66:D3:165:G:O3'	2.39	0.51
23:UT:666:LEU:HG	23:UT:681:VAL:HG13	1.92	0.51
23:UT:1147:ILE:HD13	23:UT:1150:ILE:HD12	1.93	0.51
23:UT:1463:GLN:HA	23:UT:1466:ILE:HD12	1.91	0.51
23:UT:1609:ARG:HA	23:UT:1612:ILE:HD12	1.93	0.51
62:DY:61:ARG:NH2	66:D3:530:C:O2	2.33	0.51
66:D3:103:A:N7	66:D3:358:U:O4	2.44	0.51
2:DA:11:LYS:HG3	2:DA:12:GLY:H	1.76	0.51
9:UF:5:ARG:O	9:UF:9:GLU:HG2	2.10	0.51
9:UF:332:ASP:N	9:UF:332:ASP:OD1	2.41	0.51
13:UJ:135:LEU:HD23	13:UJ:155:ILE:HD11	1.92	0.51
13:UJ:636:ASP:OD1	13:UJ:636:ASP:N	2.44	0.51
13:UJ:1768:LEU:HB3	23:UT:32:ARG:HG2	1.91	0.51
15:UL:643:ASP:HB2	15:UL:650:ILE:HD11	1.91	0.51
15:UL:888:ARG:HH22	16:UM:807:ASP:HB2	1.74	0.51
23:UT:67:ALA:O	23:UT:71:GLU:CB	2.59	0.51
23:UT:1738:TYR:HA	66:D3:803:A:H1'	1.91	0.51
25:UV:299:PRO:HD2	25:UV:302:VAL:HG11	1.93	0.51
25:UV:469:ASP:O	25:UV:473:LYS:N	2.43	0.51
29:CE:283:ILE:O	29:CE:380:ARG:NH1	2.43	0.51
42:JJ:265:THR:HG23	42:JJ:269:ARG:HH11	1.75	0.51
66:D3:1202:A:N6	66:D3:1210:C:O2'	2.44	0.51
66:D3:1592:A:H2'	66:D3:1593:A:C8	2.45	0.51
4:UA:376:SER:O	4:UA:376:SER:OG	2.29	0.51
13:UJ:1451:LYS:HE2	13:UJ:1496:GLN:HE21	1.74	0.51
13:UJ:1544:PHE:O	13:UJ:1548:PHE:N	2.41	0.51
16:UM:418:ASN:HB2	16:UM:423:LYS:HB3	1.92	0.51
23:UT:32:ARG:NH1	23:UT:242:SER:O	2.44	0.51
23:UT:1143:LYS:HB3	23:UT:1146:VAL:HG23	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:UT:1292:GLY:HA2	23:UT:1298:LEU:HD12	1.92	0.51
25:UV:358:SER:OG	25:UV:418:SER:OG	2.29	0.51
27:UZ:56:ILE:HA	27:UZ:188:SER:HA	1.92	0.51
38:JC:65:SER:OG	38:JC:109:ASP:O	2.28	0.51
42:JJ:93:LYS:HB3	42:JJ:143:PRO:HB3	1.93	0.51
51:DG:171:LYS:NZ	66:D3:68:A:OP2	2.43	0.51
52:DH:56:LYS:O	52:DH:89:HIS:ND1	2.42	0.51
66:D3:208:U:N3	66:D3:258:C:O2	2.44	0.51
7:UD:232:ASP:N	7:UD:232:ASP:OD1	2.44	0.51
9:UF:202:VAL:HG13	44:JM:55:ILE:HD13	1.93	0.51
16:UM:188:GLU:O	25:UV:657:ARG:NH1	2.43	0.51
17:UN:865:ILE:HD11	47:JP:403:ARG:HD2	1.91	0.51
18:UO:29:GLN:OE1	18:UO:332:LYS:NZ	2.40	0.51
21:UR:434:GLU:OE2	21:UR:496:ARG:NH1	2.38	0.51
23:UT:1057:GLN:HA	23:UT:1060:LYS:HG2	1.92	0.51
24:UU:390:SER:OG	67:D4:64:A:OP1	2.27	0.51
27:UZ:109:ARG:HH12	66:D3:1478:G:P	2.34	0.51
29:CE:73:GLU:HA	29:CE:76:LEU:HG	1.93	0.51
38:JC:253:TYR:HE1	38:JC:265:ILE:HG23	1.76	0.51
49:DE:105:VAL:HG21	49:DE:245:LYS:HB3	1.92	0.51
51:DG:133:LEU:HD12	66:D3:148:A:H61	1.76	0.51
53:DI:31:ARG:HH12	53:DI:48:THR:HG22	1.74	0.51
54:DJ:136:VAL:HG22	54:DJ:156:ILE:HG12	1.93	0.51
66:D3:1658:G:H1	66:D3:1743:U:H3	1.59	0.51
66:D3:1698:G:N1	66:D3:1704:U:C2	2.79	0.51
20:UQ:133:LYS:H	20:UQ:183:LYS:HE3	1.75	0.50
27:UZ:73:LEU:HB3	27:UZ:125:VAL:HG12	1.92	0.50
30:CG:19:GLN:OE1	30:CG:120:LYS:NZ	2.42	0.50
36:CM:103:MET:O	36:CM:107:ALA:HB2	2.11	0.50
38:JC:300:TRP:HA	38:JC:306:LYS:O	2.11	0.50
51:DG:87:ARG:NH1	66:D3:159:U:O2	2.44	0.50
66:D3:1541:G:N2	66:D3:1570:A:C5	2.76	0.50
1:CA:171:LEU:HB3	1:CA:240:VAL:HG12	1.93	0.50
1:CB:308:PRO:HG3	14:UK:129:SER:HA	1.92	0.50
7:UD:395:SER:OG	7:UD:396:GLU:N	2.45	0.50
10:UG:25:THR:OG1	17:UN:862:ARG:NH2	2.44	0.50
11:UH:536:ARG:HA	11:UH:540:LEU:HD23	1.93	0.50
13:UJ:1404:PHE:HD2	13:UJ:1422:VAL:HG13	1.76	0.50
13:UJ:1605:LEU:HD12	13:UJ:1650:SER:HB2	1.93	0.50
16:UM:281:THR:HA	16:UM:327:ILE:HB	1.93	0.50
21:UR:402:GLY:HA3	21:UR:427:ASN:HD21	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:UU:76:THR:OG1	24:UU:78:SER:O	2.24	0.50
31:CH:242:VAL:HG23	31:CH:253:THR:HG22	1.92	0.50
35:CL:254:HIS:HB2	35:CL:257:LEU:HB2	1.92	0.50
47:JP:444:GLU:OE1	66:D3:1069:A:O2'	2.22	0.50
52:DH:162:ILE:HA	52:DH:165:LYS:HD2	1.92	0.50
65:D2:205:C:H2'	65:D2:206:A:C8	2.46	0.50
66:D3:161:U:H2'	66:D3:162:A:C8	2.46	0.50
66:D3:268:C:N3	66:D3:288:A:C6	2.78	0.50
66:D3:390:G:H2'	66:D3:391:A:C8	2.47	0.50
67:D4:205:G:H22	67:D4:245:U:H1'	1.76	0.50
3:JA:765:VAL:HB	3:JA:774:LEU:HD11	1.92	0.50
11:UH:671:ARG:NH2	12:UI:450:ASN:OD1	2.43	0.50
14:UK:217:ARG:NH1	65:D2:260:A:O4'	2.44	0.50
15:UL:217:LEU:HB3	15:UL:229:TRP:HB2	1.92	0.50
16:UM:787:PRO:HB2	34:CK:492:PRO:HG3	1.93	0.50
20:UQ:113:ASN:O	20:UQ:133:LYS:NZ	2.45	0.50
23:UT:18:SER:OG	23:UT:19:PHE:N	2.45	0.50
23:UT:544:ASN:HA	23:UT:547:ASN:HD22	1.77	0.50
24:UU:135:ASN:HD21	24:UU:167:ILE:H	1.59	0.50
25:UV:840:LEU:O	25:UV:851:LYS:HA	2.11	0.50
28:CD:15:TYR:HB2	28:CD:81:ILE:HD13	1.94	0.50
31:CH:241:THR:HG23	31:CH:286:LEU:HD12	1.93	0.50
33:CJ:223:THR:HG21	34:CK:369:ILE:HD11	1.94	0.50
3:JA:587:GLN:NE2	3:JA:588:ILE:O	2.44	0.50
9:UF:49:SER:OG	9:UF:50:ILE:N	2.45	0.50
10:UG:244:ASN:HB3	10:UG:246:VAL:HG22	1.94	0.50
20:UQ:437:THR:O	20:UQ:709:ARG:NH1	2.43	0.50
23:UT:417:LEU:HD11	23:UT:451:VAL:HG11	1.94	0.50
23:UT:971:ARG:NH1	23:UT:996:ARG:O	2.44	0.50
23:UT:1626:ASP:O	23:UT:1630:ASN:ND2	2.45	0.50
35:CL:748:ASP:N	35:CL:748:ASP:OD1	2.44	0.50
36:CM:199:ARG:HB2	36:CM:239:PRO:HB3	1.94	0.50
49:DE:240:LYS:HA	49:DE:242:LYS:HE2	1.93	0.50
1:CA:186:ASP:OD1	1:CA:214:ARG:NH1	2.43	0.50
3:JA:631:SER:O	3:JA:721:HIS:ND1	2.41	0.50
3:JB:387:ASP:HA	3:JB:409:ALA:HB3	1.93	0.50
5:UB:678:PHE:HB3	5:UB:681:PRO:HD2	1.93	0.50
13:UJ:576:ILE:HG13	13:UJ:579:ARG:HH22	1.76	0.50
18:UO:90:ARG:HB2	18:UO:95:LEU:O	2.11	0.50
18:UO:358:GLN:O	18:UO:362:ARG:HB3	2.11	0.50
20:UQ:720:ILE:HG12	20:UQ:745:ILE:HG23	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:US:191:ILE:O	22:US:195:PHE:HB2	2.12	0.50
23:UT:899:ASP:OD1	23:UT:899:ASP:N	2.32	0.50
23:UT:1718:VAL:HA	23:UT:1721:ILE:HG22	1.93	0.50
23:UT:1957:GLN:NE2	23:UT:1995:ARG:O	2.45	0.50
25:UV:469:ASP:HB3	25:UV:474:VAL:HG22	1.93	0.50
33:CJ:124:MET:HE2	33:CJ:266:LEU:HD11	1.93	0.50
35:CL:300:GLN:HB2	35:CL:792:VAL:HG12	1.92	0.50
55:DL:37:ASN:O	66:D3:247:A:O2'	2.27	0.50
65:D2:228:A:H2'	65:D2:229:A:H8	1.76	0.50
66:D3:895:G:O6	66:D3:917:U:O4	2.29	0.50
1:CA:110:ASN:OD1	1:CA:142:ARG:NH1	2.43	0.50
3:JA:528:PRO:O	3:JA:532:ASN:ND2	2.45	0.50
6:UC:578:SER:OG	66:D3:489:C:O2	2.25	0.50
10:UG:186:ARG:HH21	32:CI:45:HIS:CE1	2.29	0.50
11:UH:541:LEU:HD23	11:UH:565:GLU:HB3	1.92	0.50
13:UJ:681:ALA:O	13:UJ:685:SER:HB3	2.11	0.50
17:UN:291:SER:OG	47:JP:248:ASP:OD2	2.28	0.50
18:UO:144:SER:OG	18:UO:145:ASP:N	2.44	0.50
23:UT:1362:ALA:O	23:UT:1366:ASN:ND2	2.44	0.50
25:UV:305:PRO:HA	25:UV:308:LEU:HB3	1.94	0.50
31:CH:230:ASN:HB3	31:CH:275:PRO:HB3	1.92	0.50
31:CH:457:GLU:OE1	31:CH:460:ARG:NH1	2.45	0.50
33:CJ:218:SER:OG	33:CJ:219:GLU:N	2.43	0.50
57:DO:84:ARG:HH21	57:DO:120:PRO:HG2	1.76	0.50
60:DW:56:HIS:O	66:D3:861:U:O2'	2.23	0.50
3:JA:824:GLU:HG3	3:JA:825:LEU:HD23	1.93	0.50
4:UA:27:LYS:HD3	4:UA:43:ILE:HD12	1.93	0.50
13:UJ:611:ILE:HD12	13:UJ:612:PRO:HD2	1.93	0.50
13:UJ:1590:ILE:HA	13:UJ:1593:TYR:HD2	1.77	0.50
15:UL:415:LYS:NZ	15:UL:427:THR:OG1	2.45	0.50
16:UM:741:LYS:HG3	16:UM:744:ARG:HH21	1.77	0.50
17:UN:845:SER:OG	17:UN:846:ALA:N	2.44	0.50
23:UT:1352:LEU:HA	23:UT:1355:ILE:HG22	1.92	0.50
23:UT:1710:LEU:O	23:UT:1714:SER:CB	2.58	0.50
24:UU:627:ASN:ND2	24:UU:647:THR:OG1	2.43	0.50
25:UV:965:ILE:HD11	25:UV:1064:LEU:HD21	1.93	0.50
36:CM:191:ILE:HB	36:CM:223:VAL:HG22	1.94	0.50
39:JF:236:VAL:HG21	39:JG:102:SER:HA	1.92	0.50
61:DX:75:GLN:HA	61:DX:82:LYS:HA	1.93	0.50
66:D3:1169:G:N1	66:D3:1575:G:OP2	2.44	0.50
7:UD:87:GLN:HB3	7:UD:378:TYR:HD2	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:UG:127:ILE:HG12	10:UG:135:ALA:HB3	1.94	0.50
16:UM:122:THR:HA	16:UM:146:THR:HG23	1.93	0.50
16:UM:667:GLN:NE2	16:UM:671:ASN:OD1	2.45	0.50
18:UO:3:THR:OG1	18:UO:4:ALA:N	2.42	0.50
22:US:167:LYS:O	22:US:272:GLN:NE2	2.45	0.50
23:UT:478:GLU:OE1	23:UT:482:ARG:NH2	2.45	0.50
23:UT:1206:THR:HB	23:UT:1249:LEU:HD13	1.93	0.50
24:UU:715:GLN:NE2	24:UU:717:ASP:O	2.44	0.50
31:CH:240:LEU:HB2	31:CH:255:GLY:HA2	1.94	0.50
35:CL:86:ILE:HD11	35:CL:117:PHE:HB3	1.94	0.50
36:CM:200:VAL:HG12	36:CM:201:SER:H	1.76	0.50
38:JC:313:PRO:HG2	38:JC:317:ILE:HD11	1.92	0.50
39:JG:70:CYS:SG	39:JG:71:ASP:N	2.85	0.50
45:JN:257:ALA:O	45:JN:260:GLY:O	2.30	0.50
51:DG:33:GLY:H	51:DG:52:ILE:HB	1.76	0.50
52:DH:15:GLU:HA	52:DH:18:LEU:HD12	1.93	0.50
55:DL:40:LEU:HD21	55:DL:70:ILE:HD11	1.93	0.50
56:DN:63:ALA:HA	56:DN:66:ILE:HG22	1.93	0.50
65:D2:404:G:N2	65:D2:452:A:OP2	2.39	0.50
66:D3:538:A:H5'	66:D3:543:C:H41	1.77	0.50
66:D3:1171:A:H2'	66:D3:1172:G:H8	1.77	0.50
67:D4:309:G:H2'	67:D4:310:G:H8	1.75	0.50
3:JA:904:LEU:HD21	3:JA:908:GLN:HB2	1.94	0.50
13:UJ:89:GLU:OE1	13:UJ:89:GLU:N	2.45	0.50
13:UJ:170:SER:OG	13:UJ:171:GLU:N	2.43	0.50
23:UT:544:ASN:OD1	23:UT:547:ASN:ND2	2.44	0.50
23:UT:597:ARG:HG3	23:UT:626:GLU:OE2	2.11	0.50
24:UU:128:LEU:HB2	24:UU:150:PRO:HG2	1.92	0.50
29:CE:288:THR:HG23	29:CE:293:GLU:HG3	1.93	0.50
30:CG:87:LEU:O	30:CG:91:CYS:HB2	2.12	0.50
34:CK:295:LYS:NZ	35:CL:262:GLY:O	2.44	0.50
35:CL:164:MET:O	35:CL:233:ARG:NH1	2.40	0.50
38:JC:138:PRO:HG2	43:JK:464:LEU:HB2	1.92	0.50
66:D3:1270:G:H2'	66:D3:1271:G:H8	1.76	0.50
3:JA:42:TYR:HA	3:JA:45:MET:HB2	1.93	0.49
4:UA:585:TYR:HE1	4:UA:606:VAL:HG21	1.77	0.49
4:UA:717:LEU:O	24:UU:576:ARG:NH2	2.38	0.49
14:UK:184:ILE:HD12	65:D2:427:A:H5'	1.93	0.49
15:UL:335:LEU:HD13	15:UL:391:ARG:HH21	1.76	0.49
16:UM:30:LYS:HA	16:UM:45:LEU:C	2.27	0.49
18:UO:449:GLY:O	18:UO:455:SER:OG	2.25	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:UQ:17:GLY:HA3	20:UQ:50:ASN:HD21	1.76	0.49
21:UR:181:GLU:OE1	24:UU:242:ARG:NH1	2.35	0.49
23:UT:232:LEU:HB2	23:UT:274:LEU:HD21	1.93	0.49
23:UT:1825:SER:OG	23:UT:1865:ASN:OD1	2.23	0.49
28:CD:206:LEU:HD11	28:CD:219:LEU:HD13	1.94	0.49
30:CF:64:LEU:HD23	30:CF:98:ILE:HD12	1.94	0.49
31:CH:156:ASN:ND2	31:CH:546:GLU:OE1	2.45	0.49
33:CJ:113:ASN:OD1	33:CJ:211:ASN:ND2	2.45	0.49
39:JG:180:LEU:HD12	39:JG:206:VAL:HG22	1.94	0.49
46:JO:272:SER:OG	46:JO:273:LYS:N	2.45	0.49
50:DF:125:THR:HG22	50:DF:127:GLN:HG2	1.93	0.49
55:DL:57:LYS:O	55:DL:138:ASN:ND2	2.44	0.49
66:D3:236:A:H2	66:D3:238:U:H3	1.60	0.49
3:JA:825:LEU:HD12	3:JA:830:LEU:HD21	1.94	0.49
3:JA:895:ILE:HA	3:JA:898:ILE:HG12	1.94	0.49
8:UE:128:GLN:OE1	8:UE:138:GLN:NE2	2.45	0.49
11:UH:576:ARG:HB2	11:UH:578:LEU:HG	1.94	0.49
23:UT:77:LEU:HD23	23:UT:80:ILE:HD12	1.94	0.49
23:UT:1379:ASN:HB3	23:UT:1428:THR:HA	1.93	0.49
23:UT:1780:ARG:NH2	23:UT:1860:ASN:OD1	2.45	0.49
25:UV:520:ASN:ND2	25:UV:955:GLU:OE2	2.45	0.49
34:CK:530:ARG:NH1	66:D3:1643:U:OP2	2.36	0.49
39:JF:54:LYS:NZ	39:JF:63:ASP:O	2.46	0.49
52:DH:97:ARG:NH1	66:D3:694:U:O2	2.45	0.49
56:DN:2:GLY:N	66:D3:866:G:OP1	2.45	0.49
66:D3:331:A:N1	66:D3:338:C:C4	2.80	0.49
3:JA:173:ARG:NH2	3:JA:186:GLU:OE1	2.45	0.49
4:UA:172:ILE:HG13	4:UA:187:PHE:HE2	1.76	0.49
7:UD:425:ASP:OD2	7:UD:444:ARG:NH1	2.45	0.49
8:UE:450:HIS:O	8:UE:454:GLU:HB2	2.12	0.49
9:UF:178:VAL:HG12	9:UF:181:LEU:H	1.78	0.49
15:UL:194:HIS:ND1	15:UL:194:HIS:O	2.45	0.49
20:UQ:38:SER:OG	20:UQ:39:GLN:N	2.46	0.49
23:UT:692:ASP:HB3	23:UT:695:LEU:HB2	1.94	0.49
35:CL:179:SER:O	35:CL:182:THR:OG1	2.26	0.49
39:JF:69:ASN:OD1	39:JF:72:ASP:N	2.43	0.49
66:D3:851:U:H1'	66:D3:852:C:H5	1.77	0.49
66:D3:939:A:H2'	66:D3:940:A:C8	2.47	0.49
15:UL:180:THR:HG22	15:UL:186:ILE:HG12	1.94	0.49
16:UM:68:LYS:HE2	16:UM:110:ALA:H	1.78	0.49
20:UQ:469:ASN:ND2	20:UQ:539:THR:O	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:UT:114:CYS:O	23:UT:117:LEU:O	2.30	0.49
23:UT:1352:LEU:O	23:UT:1356:ASN:ND2	2.45	0.49
23:UT:1425:VAL:HA	23:UT:1434:PHE:HB3	1.93	0.49
27:UZ:27:ASN:HB3	27:UZ:30:LEU:HB2	1.94	0.49
33:CJ:219:GLU:O	33:CJ:237:VAL:HA	2.12	0.49
34:CK:350:THR:O	34:CK:350:THR:OG1	2.30	0.49
35:CL:1050:PRO:HG2	66:D3:1505:A:H4'	1.93	0.49
39:JF:43:VAL:HG21	39:JF:99:LEU:HD13	1.95	0.49
65:D2:237:A:HO2'	65:D2:240:C:HO2'	1.58	0.49
66:D3:754:A:H2	66:D3:792:U:H3'	1.77	0.49
66:D3:1170:G:O6	66:D3:1574:G:C6	2.65	0.49
66:D3:1776:A:H2'	66:D3:1777:G:H8	1.77	0.49
3:JA:282:THR:O	3:JA:469:SER:HA	2.13	0.49
1:CB:165:ALA:HB3	1:CB:168:LYS:HG3	1.95	0.49
9:UF:289:HIS:CG	29:CE:216:SER:HB3	2.47	0.49
13:UJ:1521:ILE:HA	13:UJ:1524:ILE:HD12	1.94	0.49
23:UT:75:GLN:HG3	31:CH:125:VAL:HG21	1.93	0.49
25:UV:135:LEU:HD13	25:UV:183:ILE:HG13	1.94	0.49
30:CG:33:LEU:HD13	30:CG:102:ILE:HD13	1.94	0.49
35:CL:1093:THR:OG1	65:D2:246:G:OP1	2.30	0.49
36:CM:146:VAL:HG23	36:CM:172:SER:HB2	1.94	0.49
37:CN:131:ALA:HA	37:CN:134:ILE:HG22	1.94	0.49
53:DI:153:GLU:HB3	53:DI:156:VAL:HG22	1.95	0.49
65:D2:117:G:H2'	65:D2:118:A:H8	1.77	0.49
66:D3:40:A:H62	66:D3:467:G:H21	1.59	0.49
66:D3:237:C:O2'	66:D3:239:C:OP2	2.30	0.49
66:D3:390:G:H2'	66:D3:391:A:H8	1.77	0.49
67:D4:202:G:H2'	67:D4:203:U:H6	1.78	0.49
4:UA:17:GLN:NE2	4:UA:75:GLU:OE2	2.41	0.49
1:CB:173:LEU:HD11	1:CB:256:ASN:HD22	1.77	0.49
8:UE:471:ARG:NH1	22:US:297:ASP:OD2	2.45	0.49
12:UI:413:GLU:HG3	12:UI:415:GLU:H	1.78	0.49
15:UL:183:ASP:OD1	15:UL:183:ASP:N	2.43	0.49
16:UM:300:SER:OG	16:UM:315:ASN:ND2	2.43	0.49
18:UO:150:ARG:HB3	18:UO:160:PRO:HB3	1.93	0.49
23:UT:1243:ILE:HA	23:UT:1246:ILE:HD12	1.93	0.49
23:UT:1681:LEU:HG	23:UT:1686:GLN:HB3	1.95	0.49
23:UT:1899:LEU:HD11	23:UT:1917:ILE:HD11	1.95	0.49
35:CL:936:GLY:HA3	35:CL:951:MET:HG3	1.93	0.49
37:CN:92:GLU:O	37:CN:121:ARG:NH2	2.40	0.49
44:JM:209:MET:HA	44:JM:212:MET:HE2	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:JN:148:ASN:N	45:JN:150:GLN:OE1	2.45	0.49
53:DI:47:ARG:NH1	66:D3:397:A:OP2	2.39	0.49
65:D2:2:U:H2'	65:D2:3:G:H8	1.77	0.49
66:D3:23:G:N1	66:D3:603:U:N3	2.61	0.49
67:D4:314:C:H2'	67:D4:315:A:C8	2.47	0.49
67:D4:314:C:H2'	67:D4:315:A:H8	1.76	0.49
7:UD:433:LEU:HD12	7:UD:478:VAL:HG13	1.93	0.49
10:UG:212:GLY:O	10:UG:230:THR:HB	2.12	0.49
15:UL:498:LYS:HG2	15:UL:527:THR:HG22	1.95	0.49
17:UN:329:ARG:HH22	17:UN:339:GLN:HB3	1.76	0.49
23:UT:1001:VAL:O	23:UT:1005:ASN:ND2	2.46	0.49
26:UX:186:PRO:O	54:DJ:23:ARG:NH2	2.46	0.49
28:CD:277:ARG:NH1	29:CE:264:GLU:OE1	2.45	0.49
33:CJ:157:PHE:O	33:CJ:159:HIS:N	2.45	0.49
38:JC:192:ASN:HB3	43:JK:485:TRP:HZ3	1.77	0.49
39:JG:41:MET:HG3	39:JG:202:ILE:HG23	1.94	0.49
65:D2:360:C:N4	65:D2:366:A:N6	2.61	0.49
66:D3:1699:G:N2	66:D3:1702:A:C5	2.80	0.49
3:JA:12:SER:O	3:JA:16:ASN:ND2	2.46	0.49
7:UD:63:SER:OG	7:UD:687:PHE:O	2.30	0.49
7:UD:65:LEU:O	7:UD:66:ARG:NH1	2.40	0.49
7:UD:509:GLN:HB3	7:UD:558:ARG:HH22	1.78	0.49
8:UE:462:GLU:OE2	8:UE:504:TRP:NE1	2.43	0.49
11:UH:293:TYR:HA	11:UH:304:GLN:HA	1.94	0.49
14:UK:14:ARG:O	66:D3:574:G:N1	2.39	0.49
16:UM:304:LEU:HB2	16:UM:312:GLN:HB2	1.94	0.49
16:UM:343:MET:HG3	16:UM:353:LEU:HD21	1.95	0.49
20:UQ:443:ASN:O	20:UQ:447:LYS:HA	2.12	0.49
21:UR:458:ILE:HD11	21:UR:482:LEU:HD11	1.93	0.49
23:UT:26:LEU:HD11	23:UT:149:GLU:HB2	1.94	0.49
30:CG:23:VAL:HG11	30:CG:117:VAL:HG11	1.94	0.49
32:CI:163:ASN:HD21	32:CI:182:PHE:HD2	1.60	0.49
35:CL:74:VAL:HG23	35:CL:119:GLU:HA	1.93	0.49
57:DO:16:VAL:HG12	57:DO:80:HIS:HB2	1.93	0.49
66:D3:39:A:H5''	66:D3:39:A:C8	2.40	0.49
66:D3:271:A:C6	66:D3:285:G:C6	3.01	0.49
66:D3:505:A:O2'	66:D3:585:A:N6	2.31	0.49
10:UG:113:PRO:HB2	10:UG:379:GLU:HG3	1.95	0.49
13:UJ:1519:ASN:OD1	13:UJ:1519:ASN:N	2.45	0.49
16:UM:518:TRP:HA	16:UM:526:GLU:H	1.78	0.49
16:UM:537:TRP:CD1	16:UM:553:GLY:HA2	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:UO:34:GLN:HB2	18:UO:71:ARG:HH21	1.78	0.49
21:UR:535:ARG:HD3	65:D2:234:A:C4	2.48	0.49
23:UT:886:ASP:O	23:UT:890:ASN:ND2	2.39	0.49
31:CH:180:LYS:NZ	31:CH:181:ASN:OD1	2.43	0.49
53:DI:27:PHE:HB2	66:D3:333:A:N6	2.28	0.49
65:D2:212:U:H2'	65:D2:213:G:H8	1.77	0.49
65:D2:238:G:H4'	65:D2:239:U:H5'	1.95	0.49
65:D2:398:A:H2'	65:D2:399:U:H6	1.77	0.49
65:D2:415:U:H2'	65:D2:416:A:C8	2.48	0.49
66:D3:1666:U:H2'	66:D3:1667:A:C8	2.47	0.49
2:DA:87:ARG:NH2	2:DA:89:ASP:OD2	2.46	0.49
4:UA:11:LEU:O	4:UA:701:LEU:HB2	2.12	0.49
8:UE:334:TRP:CD1	8:UE:335:ASN:HB2	2.48	0.49
8:UE:369:PHE:HE1	20:UQ:599:ILE:HG21	1.78	0.49
8:UE:526:LEU:HD23	18:UO:508:LEU:HD21	1.95	0.49
11:UH:536:ARG:O	11:UH:540:LEU:HB2	2.13	0.49
15:UL:373:ASP:OD1	15:UL:373:ASP:N	2.43	0.49
15:UL:421:THR:HG23	15:UL:423:LYS:HG2	1.95	0.49
18:UO:107:VAL:HG13	18:UO:118:LEU:HB3	1.94	0.49
20:UQ:586:SER:OG	20:UQ:587:PHE:N	2.46	0.49
23:UT:1332:ILE:O	23:UT:1373:LYS:NZ	2.41	0.49
23:UT:1713:SER:O	23:UT:1713:SER:OG	2.31	0.49
23:UT:1783:LEU:HD23	47:JP:179:GLU:HG3	1.95	0.49
24:UU:30:ILE:HD12	24:UU:653:ILE:HG13	1.95	0.49
25:UV:127:PHE:HD1	25:UV:283:TYR:HB3	1.78	0.49
30:CG:49:SER:HA	30:CG:103:THR:HA	1.95	0.49
34:CK:480:GLN:HE22	34:CK:482:LEU:HB2	1.78	0.49
51:DG:51:LYS:NZ	51:DG:52:ILE:O	2.45	0.49
66:D3:540:G:O2'	66:D3:542:A:OP2	2.25	0.49
66:D3:1684:U:H2'	66:D3:1685:G:H8	1.77	0.49
3:JA:144:GLY:HA3	3:JA:476:TYR:HB3	1.94	0.48
5:UB:515:HIS:HD2	5:UB:517:VAL:H	1.61	0.48
7:UD:382:VAL:HG11	7:UD:755:ILE:HD13	1.94	0.48
11:UH:167:TYR:CB	11:UH:180:ILE:O	2.61	0.48
14:UK:247:GLN:NE2	21:UR:515:THR:OG1	2.44	0.48
23:UT:256:SER:O	23:UT:260:HIS:ND1	2.42	0.48
23:UT:1149:PRO:HA	23:UT:1152:GLU:HG2	1.95	0.48
35:CL:45:ARG:NH2	66:D3:28:A:OP1	2.46	0.48
38:JC:81:ILE:HD11	38:JC:95:ARG:HD2	1.93	0.48
53:DI:87:ASN:ND2	66:D3:341:A:O2'	2.47	0.48
55:DL:92:HIS:HB3	55:DL:101:GLU:HB2	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:DO:15:GLY:O	57:DO:79:VAL:HA	2.13	0.48
65:D2:116:U:H2'	65:D2:117:G:H8	1.78	0.48
66:D3:250:C:H2'	66:D3:251:A:C8	2.48	0.48
66:D3:806:A:H2'	66:D3:807:A:C8	2.48	0.48
3:JA:117:ASN:O	3:JA:141:THR:OG1	2.32	0.48
8:UE:128:GLN:HB3	8:UE:138:GLN:HG3	1.95	0.48
8:UE:473:LYS:HD3	8:UE:476:LEU:HD23	1.95	0.48
13:UJ:1352:LEU:HA	13:UJ:1355:ILE:HG22	1.95	0.48
13:UJ:1533:ASN:HA	13:UJ:1536:VAL:HG22	1.96	0.48
13:UJ:1555:ALA:O	13:UJ:1571:ARG:NH1	2.45	0.48
15:UL:572:HIS:ND1	15:UL:592:SER:OG	2.46	0.48
18:UO:165:THR:OG1	18:UO:166:GLY:N	2.45	0.48
20:UQ:24:ASN:ND2	20:UQ:369:TYR:OH	2.45	0.48
22:US:210:ASP:HA	22:US:213:LEU:HG	1.96	0.48
23:UT:279:TRP:HE1	23:UT:321:ILE:HA	1.78	0.48
23:UT:636:ARG:HA	23:UT:639:THR:HG22	1.95	0.48
23:UT:1011:LEU:HA	53:DI:115:ALA:HB1	1.94	0.48
25:UV:423:LYS:HE3	25:UV:499:LEU:HB3	1.95	0.48
33:CJ:100:LEU:HD22	33:CJ:144:GLU:HB3	1.95	0.48
35:CL:83:THR:HB	70:CL:2001:GTP:O2A	2.13	0.48
42:JJ:174:LEU:HA	42:JJ:180:LEU:HD12	1.95	0.48
47:JP:393:LYS:NZ	47:JP:397:ASP:OD2	2.38	0.48
51:DG:132:ARG:HE	66:D3:68:A:N6	2.11	0.48
66:D3:230:C:H2'	66:D3:231:U:H4'	1.94	0.48
66:D3:895:G:H2'	66:D3:896:U:C6	2.48	0.48
3:JA:357:VAL:O	3:JA:361:ARG:CB	2.61	0.48
3:JA:635:ILE:HB	3:JA:725:VAL:HG12	1.95	0.48
3:JA:797:THR:HG22	3:JA:800:GLN:H	1.77	0.48
4:UA:482:SER:O	4:UA:486:SER:N	2.45	0.48
13:UJ:588:LEU:HA	13:UJ:591:LYS:HG2	1.95	0.48
22:US:386:LEU:O	22:US:390:SER:CB	2.60	0.48
24:UU:188:VAL:H	24:UU:202:SER:HG	1.61	0.48
24:UU:269:SER:O	24:UU:269:SER:OG	2.28	0.48
24:UU:703:ASN:HA	24:UU:706:ASP:HB2	1.94	0.48
25:UV:715:SER:O	25:UV:719:THR:OG1	2.21	0.48
26:UX:154:ALA:HA	26:UX:173:MET:O	2.13	0.48
39:JG:176:ARG:NH2	39:JG:200:GLU:OE2	2.44	0.48
51:DG:28:PHE:HA	51:DG:102:VAL:HG13	1.95	0.48
52:DH:51:VAL:HG23	52:DH:53:GLY:H	1.78	0.48
58:DQ:97:VAL:HG12	58:DQ:98:ASP:H	1.79	0.48
66:D3:647:G:H22	66:D3:687:G:H22	1.60	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:D3:1052:U:H2'	66:D3:1053:G:C8	2.48	0.48
3:JA:494:VAL:HG22	3:JA:496:LEU:H	1.77	0.48
13:UJ:1361:VAL:HG22	13:UJ:1365:LYS:HE3	1.96	0.48
13:UJ:1608:PHE:O	13:UJ:1657:ASN:ND2	2.45	0.48
15:UL:923:GLU:OE1	42:JJ:264:ARG:NH1	2.45	0.48
16:UM:300:SER:HB2	16:UM:316:VAL:HG22	1.95	0.48
18:UO:426:LYS:NZ	20:UQ:487:GLU:OE2	2.38	0.48
23:UT:268:PRO:HB2	23:UT:271:SER:H	1.78	0.48
23:UT:269:GLU:HA	23:UT:272:VAL:HG22	1.95	0.48
24:UU:638:GLY:O	24:UU:656:ASN:ND2	2.46	0.48
39:JF:178:VAL:HA	39:JF:223:GLU:O	2.14	0.48
49:DE:233:LYS:NZ	49:DE:234:PRO:O	2.46	0.48
65:D2:192:G:H2'	65:D2:193:G:C8	2.48	0.48
66:D3:244:A:N1	66:D3:250:C:N3	2.61	0.48
3:JA:89:ASN:ND2	35:CL:91:ARG:HB3	2.28	0.48
3:JA:590:LEU:HD13	3:JA:594:ILE:HG23	1.94	0.48
8:UE:5:VAL:HG23	8:UE:306:LEU:HD11	1.96	0.48
13:UJ:226:ASN:ND2	67:D4:333:U:O2'	2.46	0.48
13:UJ:1493:ALA:O	13:UJ:1497:SER:OG	2.30	0.48
15:UL:44:SER:HB2	15:UL:82:CYS:HB3	1.95	0.48
16:UM:532:HIS:CD2	16:UM:533:LYS:H	2.31	0.48
18:UO:40:ASN:HB2	18:UO:60:SER:HB3	1.95	0.48
20:UQ:469:ASN:OD1	20:UQ:470:TYR:N	2.47	0.48
22:US:348:ASP:N	22:US:348:ASP:OD1	2.44	0.48
23:UT:731:SER:OG	23:UT:732:SER:N	2.46	0.48
24:UU:396:LYS:HE3	24:UU:402:VAL:HG22	1.95	0.48
33:CJ:92:THR:HG21	33:CJ:96:PRO:HB3	1.95	0.48
38:JC:116:HIS:NE2	38:JC:124:GLN:HB2	2.29	0.48
39:JG:31:LEU:HD13	39:JG:40:ARG:HE	1.79	0.48
39:JG:228:SER:OG	39:JG:230:TYR:O	2.30	0.48
47:JP:393:LYS:NZ	67:D4:35:U:O2	2.45	0.48
51:DG:187:LYS:NZ	66:D3:140:A:OP2	2.41	0.48
3:JA:866:TYR:HA	3:JA:871:MET:HB2	1.96	0.48
4:UA:164:THR:HG23	4:UA:194:VAL:HB	1.96	0.48
4:UA:814:LYS:NZ	24:UU:939:ALA:O	2.38	0.48
13:UJ:381:ARG:NH2	20:UQ:848:GLU:OE2	2.44	0.48
16:UM:742:ARG:NH1	34:CK:506:GLU:OE2	2.47	0.48
26:UX:67:ILE:HD11	26:UX:96:PRO:HB2	1.96	0.48
31:CH:313:SER:OG	31:CH:314:GLN:N	2.44	0.48
33:CJ:196:THR:OG1	33:CJ:197:ALA:N	2.46	0.48
47:JP:288:TYR:O	47:JP:298:LEU:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:D3:329:G:H2'	66:D3:330:G:H8	1.79	0.48
1:CA:264:GLN:HA	1:CA:320:TYR:O	2.13	0.48
3:JA:593:GLU:N	3:JA:631:SER:OG	2.45	0.48
4:UA:432:GLN:HE22	34:CK:455:HIS:HA	1.79	0.48
8:UE:319:TRP:HA	8:UE:322:ILE:HG12	1.96	0.48
11:UH:520:PRO:CG	11:UH:523:LEU:HB2	2.43	0.48
13:UJ:716:PHE:O	13:UJ:719:SER:OG	2.27	0.48
22:US:347:PRO:O	22:US:351:HIS:ND1	2.42	0.48
23:UT:593:ASP:HB2	23:UT:596:ILE:HG22	1.95	0.48
24:UU:173:LEU:HD23	24:UU:214:PRO:HB3	1.96	0.48
24:UU:894:ASP:N	24:UU:894:ASP:OD1	2.46	0.48
25:UV:104:LYS:HD3	25:UV:107:ILE:HD11	1.96	0.48
31:CH:561:ASN:ND2	67:D4:251:G:O6	2.47	0.48
38:JC:139:LYS:HB2	38:JC:157:ALA:HB1	1.95	0.48
39:JF:233:SER:OG	39:JF:234:ALA:N	2.47	0.48
39:JG:121:LEU:HB3	39:JG:163:ILE:O	2.14	0.48
44:JM:70:ASP:O	44:JM:74:ASN:ND2	2.47	0.48
49:DE:11:ARG:HH21	49:DE:24:SER:HB3	1.78	0.48
65:D2:24:U:O4	65:D2:56:G:O6	2.31	0.48
66:D3:69:G:C6	66:D3:83:G:N2	2.82	0.48
66:D3:1688:U:H2'	66:D3:1689:A:H8	1.79	0.48
7:UD:272:LEU:HD21	21:UR:399:LYS:HD3	1.95	0.48
16:UM:542:CYS:O	16:UM:546:LYS:HA	2.14	0.48
16:UM:563:ASP:OD1	16:UM:563:ASP:N	2.46	0.48
18:UO:105:VAL:HG22	18:UO:120:ILE:HB	1.95	0.48
21:UR:257:HIS:HE2	21:UR:310:GLN:HG2	1.79	0.48
23:UT:96:ASN:HD21	23:UT:131:THR:HG22	1.78	0.48
23:UT:431:LYS:NZ	23:UT:750:TYR:O	2.32	0.48
23:UT:957:LYS:HB3	23:UT:959:PRO:HD2	1.96	0.48
23:UT:1402:ILE:HG13	23:UT:1417:TYR:HD1	1.79	0.48
23:UT:1543:GLN:HA	23:UT:1546:GLN:HE21	1.79	0.48
26:UX:90:LEU:HD21	26:UX:182:ILE:HG21	1.95	0.48
37:CN:86:GLU:H	37:CN:127:LYS:HB3	1.79	0.48
46:JO:259:LYS:NZ	66:D3:631:G:OP1	2.45	0.48
47:JP:89:ASP:HB3	47:JP:91:VAL:HG12	1.96	0.48
51:DG:148:SER:OG	51:DG:149:LYS:N	2.45	0.48
66:D3:1650:U:H2'	66:D3:1651:A:C8	2.49	0.48
1:CA:226:HIS:HB3	1:CA:229:LYS:HB2	1.96	0.48
11:UH:569:GLU:O	11:UH:572:SER:OG	2.31	0.48
15:UL:629:ASN:ND2	15:UL:643:ASP:OD1	2.47	0.48
16:UM:116:LEU:HD12	16:UM:128:VAL:HG12	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:UM:300:SER:O	16:UM:315:ASN:ND2	2.46	0.48
16:UM:346:VAL:HG13	16:UM:352:LYS:HB2	1.96	0.48
16:UM:702:LEU:HD11	16:UM:758:ARG:HG3	1.96	0.48
22:US:309:ASN:HB3	22:US:312:ALA:HB3	1.96	0.48
23:UT:190:ARG:HG3	23:UT:234:ILE:HG12	1.96	0.48
23:UT:480:TYR:O	23:UT:484:ILE:HG12	2.13	0.48
24:UU:759:PHE:HB3	24:UU:762:LEU:HD13	1.96	0.48
25:UV:114:VAL:HG22	25:UV:195:ILE:HB	1.96	0.48
25:UV:273:SER:OG	25:UV:274:LYS:N	2.47	0.48
36:CM:289:VAL:HG11	36:CM:294:LEU:HD13	1.96	0.48
37:CN:77:LYS:HE2	37:CN:147:LEU:HD22	1.96	0.48
42:JJ:265:THR:HG23	42:JJ:269:ARG:NH1	2.29	0.48
53:DI:25:ARG:NH2	66:D3:386:G:OP2	2.46	0.48
56:DN:76:LYS:NZ	66:D3:859:A:N1	2.50	0.48
66:D3:252:U:H2'	66:D3:253:A:H8	1.79	0.48
66:D3:806:A:H2'	66:D3:807:A:H8	1.78	0.48
4:UA:16:ARG:HH11	4:UA:57:ASN:HD21	1.60	0.48
4:UA:202:ASP:OD1	4:UA:202:ASP:N	2.47	0.48
4:UA:209:VAL:HG22	4:UA:215:VAL:HG22	1.95	0.48
15:UL:275:GLN:HA	15:UL:281:ILE:HG12	1.95	0.48
15:UL:426:ARG:HD2	15:UL:459:LEU:HA	1.95	0.48
16:UM:334:ALA:HB3	16:UM:381:VAL:HG21	1.96	0.48
21:UR:146:LEU:HD22	21:UR:163:ARG:HB3	1.96	0.48
25:UV:777:ASP:OD1	25:UV:1168:TYR:OH	2.30	0.48
32:CI:24:ASP:O	32:CI:26:GLY:N	2.47	0.48
44:JM:58:ASN:HA	44:JM:61:LYS:HG2	1.96	0.48
49:DE:21:ASP:OD1	49:DE:21:ASP:N	2.45	0.48
66:D3:467:G:H8	66:D3:467:G:O5'	1.97	0.48
66:D3:539:G:H1'	66:D3:540:G:H21	1.79	0.48
7:UD:532:ASN:OD1	7:UD:546:GLY:N	2.47	0.47
7:UD:554:ASP:O	7:UD:558:ARG:HA	2.13	0.47
8:UE:444:ALA:HB2	8:UE:452:LEU:HD23	1.96	0.47
18:UO:378:LYS:NZ	65:D2:90:G:OP1	2.35	0.47
20:UQ:60:ARG:NH2	20:UQ:381:SER:O	2.47	0.47
22:US:48:THR:O	22:US:52:LEU:N	2.41	0.47
25:UV:111:LEU:HA	25:UV:114:VAL:HG12	1.96	0.47
42:JJ:148:ASP:N	42:JJ:148:ASP:OD1	2.46	0.47
54:DJ:93:LEU:HA	54:DJ:96:VAL:HG12	1.94	0.47
3:JA:552:ASP:OD1	3:JA:552:ASP:N	2.47	0.47
4:UA:398:ARG:HD2	4:UA:400:GLN:HE21	1.79	0.47
8:UE:488:ILE:HG13	8:UE:498:LEU:HD23	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:UG:388:ASP:OD1	10:UG:388:ASP:N	2.46	0.47
18:UO:394:GLN:OE1	18:UO:396:LYS:NZ	2.38	0.47
20:UQ:255:ASN:ND2	65:D2:81:A:OP1	2.40	0.47
23:UT:61:ALA:HB2	49:DE:96:ASN:HD21	1.79	0.47
23:UT:279:TRP:O	23:UT:283:SER:OG	2.25	0.47
23:UT:675:SER:HA	23:UT:678:TRP:HB2	1.96	0.47
23:UT:1941:VAL:HA	23:UT:1944:ILE:HG12	1.96	0.47
24:UU:78:SER:OG	24:UU:79:SER:N	2.46	0.47
25:UV:465:PRO:HB2	25:UV:477:LEU:HB2	1.96	0.47
32:CI:15:LYS:HD3	67:D4:24:U:H5'	1.97	0.47
33:CJ:278:ARG:HG2	33:CJ:281:ILE:HD12	1.96	0.47
37:CN:17:PRO:HG2	37:CN:148:HIS:CD2	2.49	0.47
38:JC:108:SER:OG	38:JC:109:ASP:N	2.46	0.47
39:JF:218:ASP:HA	39:JF:221:VAL:HG12	1.95	0.47
47:JP:278:VAL:HA	47:JP:287:TYR:O	2.14	0.47
66:D3:58:U:H3	66:D3:452:A:H62	1.62	0.47
2:DA:87:ARG:O	2:DA:99:ASN:N	2.47	0.47
2:DA:131:ASP:HB2	2:DA:133:TYR:HD2	1.79	0.47
3:JB:507:THR:O	38:JC:258:ARG:NH1	2.47	0.47
5:UB:613:ILE:HG13	5:UB:615:PRO:HD3	1.95	0.47
7:UD:237:GLU:OE2	19:UP:208:ARG:NE	2.47	0.47
7:UD:383:LEU:HD13	7:UD:433:LEU:HD23	1.95	0.47
8:UE:261:VAL:O	8:UE:273:LYS:NZ	2.44	0.47
9:UF:285:TYR:HD2	9:UF:308:THR:HG22	1.79	0.47
15:UL:81:GLU:N	15:UL:81:GLU:OE2	2.47	0.47
17:UN:340:GLU:O	17:UN:344:GLN:HG3	2.14	0.47
21:UR:519:SER:O	21:UR:519:SER:OG	2.31	0.47
22:US:200:ASN:HD22	22:US:256:ASN:HA	1.78	0.47
23:UT:99:ASP:O	23:UT:103:LEU:N	2.47	0.47
23:UT:524:LYS:NZ	23:UT:553:ASN:O	2.47	0.47
23:UT:760:THR:HA	23:UT:763:GLU:HG3	1.96	0.47
23:UT:891:LEU:HD21	23:UT:901:ILE:HD11	1.96	0.47
23:UT:1314:SER:HA	23:UT:1320:ASP:HB2	1.96	0.47
23:UT:1665:LEU:HD13	23:UT:1669:TYR:HB3	1.95	0.47
24:UU:120:HIS:NE2	24:UU:168:VAL:O	2.47	0.47
24:UU:176:TYR:HB3	24:UU:179:LYS:HB2	1.97	0.47
24:UU:579:ARG:NH1	24:UU:615:PRO:O	2.42	0.47
25:UV:929:ILE:HG23	25:UV:933:LEU:HD23	1.97	0.47
36:CM:321:ARG:HA	36:CM:324:ILE:HG22	1.97	0.47
38:JC:205:GLU:HG2	38:JC:214:ARG:HH11	1.78	0.47
38:JC:210:ARG:NH1	43:JK:487:ASP:OD2	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:JG:44:VAL:HA	39:JG:113:TYR:O	2.13	0.47
46:JO:100:LEU:HD22	46:JO:117:LEU:HD22	1.96	0.47
65:D2:182:G:O6	65:D2:215:U:O4	2.32	0.47
65:D2:223:C:H2'	65:D2:224:G:C8	2.48	0.47
65:D2:415:U:H2'	65:D2:416:A:H8	1.79	0.47
66:D3:1714:A:H2'	66:D3:1715:G:C8	2.50	0.47
7:UD:145:TRP:NE1	7:UD:161:ASP:OD1	2.41	0.47
8:UE:11:ASP:N	8:UE:11:ASP:OD1	2.46	0.47
10:UG:96:ASP:N	10:UG:96:ASP:OD1	2.44	0.47
15:UL:536:CYS:SG	15:UL:537:VAL:N	2.87	0.47
16:UM:220:ILE:HB	16:UM:237:LEU:HB2	1.96	0.47
16:UM:364:ILE:HB	16:UM:382:GLU:HB2	1.96	0.47
20:UQ:510:TYR:OH	20:UQ:527:HIS:ND1	2.31	0.47
24:UU:370:SER:O	24:UU:373:ARG:N	2.45	0.47
25:UV:1023:ASN:ND2	25:UV:1048:SER:O	2.47	0.47
28:CD:91:SER:OG	28:CD:114:PRO:O	2.32	0.47
29:CE:21:LYS:O	29:CE:25:SER:OG	2.26	0.47
29:CE:291:VAL:HG12	29:CE:363:LEU:HD11	1.95	0.47
38:JC:205:GLU:OE1	38:JC:217:LYS:NZ	2.41	0.47
38:JC:254:ILE:HB	38:JC:264:ILE:HB	1.96	0.47
42:JJ:241:ARG:HG2	42:JJ:244:ARG:HH22	1.78	0.47
49:DE:195:ILE:HG22	49:DE:210:ILE:HG12	1.97	0.47
66:D3:103:A:O3'	66:D3:308:C:N4	2.47	0.47
66:D3:389:G:H2'	66:D3:390:G:C8	2.50	0.47
66:D3:1695:G:H2'	66:D3:1696:G:C8	2.50	0.47
4:UA:190:HIS:ND1	4:UA:210:SER:HB3	2.28	0.47
1:CB:294:ARG:NH2	19:UP:182:SER:O	2.48	0.47
13:UJ:771:ILE:O	13:UJ:775:ILE:HG12	2.14	0.47
15:UL:87:ALA:HB2	15:UL:94:LEU:HD13	1.96	0.47
18:UO:456:ALA:HA	18:UO:459:VAL:HG12	1.97	0.47
20:UQ:200:ASN:HD22	20:UQ:262:MET:HB2	1.77	0.47
26:UX:69:THR:HG23	26:UX:102:VAL:HG13	1.96	0.47
31:CH:540:LEU:HD23	31:CH:540:LEU:HA	1.81	0.47
32:CI:113:VAL:HG22	32:CI:124:ILE:HD11	1.95	0.47
35:CL:289:HIS:HB2	35:CL:815:LEU:HD11	1.95	0.47
46:JO:128:ILE:HB	46:JO:191:MET:HG3	1.96	0.47
47:JP:265:ASN:ND2	47:JP:308:VAL:O	2.41	0.47
66:D3:562:G:N2	66:D3:565:C:OP2	2.34	0.47
66:D3:641:G:N1	66:D3:693:U:N3	2.62	0.47
66:D3:1541:G:C2	66:D3:1570:A:N1	2.82	0.47
67:D4:12:U:H2'	67:D4:13:C:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:UE:525:SER:HB2	18:UO:17:PRO:HG2	1.95	0.47
13:UJ:788:THR:HA	13:UJ:791:VAL:HG22	1.95	0.47
13:UJ:1452:GLU:HA	13:UJ:1455:LYS:HD2	1.96	0.47
15:UL:472:HIS:CE1	15:UL:492:SER:HG	2.31	0.47
20:UQ:661:THR:HB	20:UQ:673:ALA:HB3	1.97	0.47
22:US:245:GLN:HB3	22:US:248:GLU:HG3	1.95	0.47
23:UT:403:LEU:HD12	23:UT:404:SER:HB3	1.97	0.47
23:UT:428:GLN:HB2	23:UT:431:LYS:HB2	1.96	0.47
23:UT:1856:THR:HG21	47:JP:110:TYR:CZ	2.49	0.47
24:UU:44:LEU:HD21	24:UU:88:HIS:HD2	1.79	0.47
25:UV:562:LEU:O	25:UV:566:ILE:HG12	2.15	0.47
28:CD:381:ASN:O	28:CD:384:SER:OG	2.28	0.47
31:CH:189:THR:OG1	31:CH:197:THR:OG1	2.32	0.47
32:CI:137:ARG:HA	32:CI:142:LEU:HA	1.95	0.47
35:CL:1118:THR:OG1	65:D2:445:U:O2'	2.28	0.47
38:JC:334:GLU:O	53:DI:42:ARG:NH1	2.47	0.47
44:JM:106:LEU:O	44:JM:146:ARG:NH1	2.42	0.47
45:JN:309:SER:O	45:JN:309:SER:OG	2.31	0.47
49:DE:166:SER:OG	49:DE:167:GLY:N	2.48	0.47
57:DO:42:VAL:HG22	57:DO:67:VAL:HG23	1.97	0.47
62:DY:128:LYS:NZ	66:D3:153:G:N7	2.62	0.47
66:D3:1150:G:H2'	66:D3:1151:A:H8	1.80	0.47
66:D3:1437:U:H2'	66:D3:1438:G:C8	2.49	0.47
3:JA:523:LEU:HD21	3:JA:534:LEU:HD21	1.96	0.47
3:JA:533:PHE:HE1	3:JA:582:PRO:HG3	1.78	0.47
3:JA:747:LEU:HD13	3:JA:760:CYS:HB2	1.97	0.47
4:UA:360:VAL:HG23	4:UA:374:ILE:HD11	1.97	0.47
7:UD:354:LYS:O	7:UD:374:THR:CA	2.56	0.47
8:UE:29:VAL:HG22	8:UE:51:LEU:HB3	1.97	0.47
10:UG:356:GLY:HA3	65:D2:315:U:H5'	1.96	0.47
11:UH:542:SER:HA	11:UH:545:ARG:HD2	1.97	0.47
13:UJ:726:PRO:HB3	13:UJ:762:SER:HB2	1.96	0.47
13:UJ:1533:ASN:HD22	13:UJ:1585:ASN:HD21	1.63	0.47
13:UJ:1536:VAL:HA	13:UJ:1539:MET:HB2	1.96	0.47
15:UL:53:ASP:OD1	15:UL:54:ILE:N	2.46	0.47
15:UL:666:ALA:HB3	15:UL:670:GLY:H	1.80	0.47
16:UM:226:ASN:HD22	16:UM:230:LYS:HB3	1.78	0.47
16:UM:226:ASN:HB2	16:UM:230:LYS:O	2.15	0.47
16:UM:453:PHE:HE2	16:UM:455:LEU:HB2	1.78	0.47
18:UO:51:HIS:O	18:UO:53:HIS:ND1	2.39	0.47
20:UQ:40:ASP:OD2	20:UQ:42:ARG:NH1	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:UQ:359:GLN:NE2	20:UQ:359:GLN:O	2.47	0.47
22:US:195:PHE:O	22:US:199:PHE:HB2	2.15	0.47
23:UT:15:ARG:NH1	66:D3:82:U:OP1	2.48	0.47
23:UT:515:THR:HA	23:UT:518:MET:HG2	1.95	0.47
23:UT:674:PHE:O	23:UT:678:TRP:N	2.42	0.47
23:UT:1680:THR:HG23	23:UT:1681:LEU:HD13	1.97	0.47
23:UT:1710:LEU:HD12	23:UT:1760:ASN:HB3	1.97	0.47
25:UV:1165:SER:OG	25:UV:1166:ARG:N	2.47	0.47
27:UZ:50:ARG:NH2	66:D3:1510:U:OP1	2.48	0.47
27:UZ:87:LEU:HD11	27:UZ:176:VAL:HG21	1.96	0.47
29:CE:353:GLY:H	29:CE:356:LYS:HD2	1.80	0.47
33:CJ:164:GLN:HB2	33:CJ:260:GLU:HG2	1.96	0.47
33:CJ:287:LYS:HG2	33:CJ:290:LEU:HD12	1.95	0.47
37:CN:50:SER:O	37:CN:127:LYS:NZ	2.41	0.47
39:JG:44:VAL:HG23	39:JG:205:PHE:HA	1.95	0.47
42:JJ:239:HIS:CE1	42:JJ:270:LEU:HD21	2.49	0.47
47:JP:281:ASN:ND2	47:JP:283:ASP:OD1	2.47	0.47
47:JP:457:ARG:HH21	66:D3:-4:A:H2'	1.80	0.47
50:DF:118:LEU:HD22	50:DF:129:PRO:HB2	1.96	0.47
65:D2:123:C:H3'	65:D2:124:A:C8	2.49	0.47
66:D3:97:C:H2'	66:D3:98:U:C6	2.50	0.47
66:D3:107:C:H2'	66:D3:108:A:H8	1.78	0.47
66:D3:333:A:O2'	66:D3:334:G:O4'	2.33	0.47
66:D3:973:A:H2'	66:D3:974:A:H8	1.79	0.47
5:UB:434:ILE:O	5:UB:438:ASN:ND2	2.47	0.47
10:UG:480:ASN:OD1	10:UG:515:ARG:NE	2.43	0.47
14:UK:108:ARG:NH2	67:D4:326:U:OP1	2.48	0.47
15:UL:201:ILE:HG13	16:UM:663:VAL:HG11	1.97	0.47
20:UQ:443:ASN:O	20:UQ:447:LYS:CA	2.63	0.47
23:UT:832:LEU:HB3	23:UT:868:LEU:HB3	1.96	0.47
23:UT:895:THR:HG23	23:UT:896:LEU:HD23	1.97	0.47
23:UT:978:PHE:CE2	23:UT:1024:GLN:HG3	2.50	0.47
23:UT:1983:LEU:HA	23:UT:1986:VAL:HG22	1.97	0.47
25:UV:538:ASN:OD1	25:UV:541:THR:OG1	2.33	0.47
28:CD:185:ASP:OD1	28:CD:285:ARG:NE	2.48	0.47
38:JC:101:ASN:HD21	38:JC:104:PHE:HB3	1.79	0.47
44:JM:70:ASP:OD1	44:JM:70:ASP:N	2.48	0.47
50:DF:223:SER:OG	50:DF:224:ASN:N	2.46	0.47
62:DY:89:TYR:OH	62:DY:90:ARG:NH2	2.47	0.47
66:D3:67:A:O2'	66:D3:69:G:OP1	2.25	0.47
66:D3:269:G:C6	66:D3:287:G:C2	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:D3:271:A:C2	66:D3:285:G:C6	3.02	0.47
2:DA:32:ILE:HD11	2:DA:43:VAL:HG13	1.97	0.47
7:UD:595:ASN:H	7:UD:611:LEU:HA	1.79	0.47
9:UF:38:ASP:OD2	9:UF:42:ARG:NH1	2.46	0.47
13:UJ:759:ILE:O	13:UJ:763:LEU:HB2	2.15	0.47
16:UM:660:LYS:HE3	16:UM:660:LYS:HB2	1.75	0.47
17:UN:886:LYS:NZ	65:D2:485:G:O2'	2.34	0.47
24:UU:593:PHE:HE1	24:UU:614:LEU:HD11	1.79	0.47
24:UU:717:ASP:HB2	24:UU:720:LEU:HD13	1.96	0.47
25:UV:1200:LEU:HD23	25:UV:1204:VAL:HG11	1.97	0.47
35:CL:246:ALA:HB3	35:CL:810:ILE:HG13	1.97	0.47
35:CL:776:GLN:HA	35:CL:780:ILE:HG12	1.96	0.47
43:JK:462:ARG:HH11	66:D3:341:A:H5'	1.79	0.47
66:D3:288:A:H2'	66:D3:289:U:C6	2.50	0.47
66:D3:683:C:H2'	66:D3:684:A:C8	2.48	0.47
3:JA:25:ILE:HG23	3:JA:198:CYS:HB3	1.97	0.47
3:JA:62:LYS:HD3	3:JA:62:LYS:HA	1.75	0.47
3:JA:117:ASN:ND2	3:JA:119:TYR:OH	2.48	0.47
3:JA:729:LEU:HD12	3:JA:747:LEU:HD13	1.97	0.47
4:UA:200:SER:OG	4:UA:201:HIS:N	2.46	0.47
8:UE:56:SER:O	8:UE:56:SER:OG	2.29	0.47
14:UK:48:LEU:HD23	14:UK:48:LEU:HA	1.75	0.47
16:UM:150:LEU:HD23	16:UM:163:LEU:HD11	1.96	0.47
18:UO:423:LYS:NZ	20:UQ:475:SER:O	2.42	0.47
22:US:413:MET:HG2	39:JG:23:LEU:HD12	1.97	0.47
23:UT:1178:CYS:HA	23:UT:1181:ILE:HG22	1.97	0.47
25:UV:525:LEU:O	25:UV:616:LYS:HA	2.14	0.47
35:CL:859:ILE:HD12	35:CL:1011:VAL:HG22	1.97	0.47
37:CN:16:VAL:HB	37:CN:37:MET:HB3	1.96	0.47
38:JC:140:PHE:O	38:JC:158:SER:N	2.48	0.47
39:JG:112:VAL:HG23	39:JG:124:VAL:HB	1.97	0.47
65:D2:2:U:H2'	65:D2:3:G:C8	2.49	0.47
66:D3:306:U:H2'	66:D3:307:G:C8	2.49	0.47
66:D3:753:A:C6	66:D3:797:G:O6	2.68	0.47
3:JA:196:PRO:O	3:JA:213:ALA:N	2.45	0.46
10:UG:258:LEU:HD13	10:UG:268:VAL:HG13	1.97	0.46
11:UH:57:ILE:O	11:UH:70:PRO:HA	2.15	0.46
11:UH:679:ILE:HD11	12:UI:456:LEU:HD21	1.96	0.46
13:UJ:357:ARG:NH1	13:UJ:358:TYR:OH	2.48	0.46
15:UL:88:HIS:HD2	15:UL:91:THR:HG23	1.80	0.46
20:UQ:497:ASP:HB2	20:UQ:510:TYR:HB3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:UQ:663:LYS:HE3	20:UQ:712:THR:HA	1.96	0.46
20:UQ:704:ASN:N	20:UQ:704:ASN:OD1	2.47	0.46
23:UT:140:ILE:HD11	23:UT:188:LEU:HG	1.98	0.46
23:UT:1631:PHE:O	23:UT:1634:SER:OG	2.32	0.46
30:CG:54:MET:O	30:CG:80:PHE:HA	2.15	0.46
35:CL:931:LYS:HB2	35:CL:1006:TRP:CZ3	2.50	0.46
37:CN:227:ARG:O	37:CN:231:LEU:HG	2.15	0.46
38:JC:191:VAL:HA	43:JK:484:LYS:HD3	1.95	0.46
49:DE:134:LYS:N	66:D3:253:A:OP1	2.48	0.46
56:DN:64:ARG:NH2	66:D3:862:A:OP2	2.47	0.46
62:DY:61:ARG:HA	62:DY:61:ARG:HD2	1.69	0.46
65:D2:112:U:H2'	65:D2:113:A:C8	2.49	0.46
65:D2:210:U:H2'	65:D2:211:G:C8	2.50	0.46
66:D3:631:G:O6	66:D3:968:U:O2	2.32	0.46
66:D3:1142:A:H3'	66:D3:1143:A:C8	2.50	0.46
66:D3:1775:U:O2	66:D3:1786:G:N2	2.41	0.46
2:DA:32:ILE:HG22	2:DA:96:LEU:HD12	1.97	0.46
4:UA:130:ASP:OD2	24:UU:25:SER:OG	2.24	0.46
5:UB:521:ALA:O	5:UB:525:MET:HG2	2.14	0.46
8:UE:53:LEU:HD13	8:UE:58:LEU:HD12	1.97	0.46
8:UE:280:GLN:HB3	8:UE:288:LYS:HE2	1.97	0.46
13:UJ:745:TYR:CE2	13:UJ:747:GLN:HB3	2.50	0.46
13:UJ:1619:ARG:NH2	13:UJ:1654:GLN:O	2.48	0.46
16:UM:104:PRO:O	16:UM:122:THR:OG1	2.27	0.46
18:UO:182:HIS:ND1	18:UO:197:ASP:OD1	2.49	0.46
23:UT:1888:THR:HG22	23:UT:1890:SER:H	1.80	0.46
24:UU:416:ALA:HB3	24:UU:433:ALA:HB3	1.97	0.46
33:CJ:211:ASN:OD1	33:CJ:212:ALA:N	2.44	0.46
35:CL:761:GLN:O	35:CL:765:ASN:ND2	2.36	0.46
36:CM:206:ASN:HA	36:CM:209:ILE:HG12	1.96	0.46
39:JG:98:THR:O	39:JG:102:SER:OG	2.29	0.46
65:D2:21:A:H2'	65:D2:22:A:C8	2.50	0.46
65:D2:360:C:N4	65:D2:366:A:H61	2.14	0.46
1:CB:293:LEU:HB3	1:CB:298:ILE:HB	1.97	0.46
8:UE:145:CYS:HB3	8:UE:148:LEU:HD11	1.96	0.46
21:UR:156:ASN:OD1	21:UR:156:ASN:N	2.47	0.46
24:UU:488:ASN:O	24:UU:492:GLY:CA	2.63	0.46
24:UU:639:ASP:N	24:UU:639:ASP:OD1	2.39	0.46
29:CE:286:ASN:HD22	29:CE:386:ILE:HB	1.80	0.46
34:CK:380:ASP:OD1	34:CK:380:ASP:N	2.47	0.46
35:CL:977:LYS:NZ	66:D3:1598:U:OP2	2.41	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:DI:34:ALA:HB2	53:DI:56:ARG:HD3	1.97	0.46
67:D4:309:G:H2'	67:D4:310:G:C8	2.50	0.46
1:CA:195:TYR:HD1	1:CA:218:ILE:HG12	1.80	0.46
3:JA:529:VAL:HA	3:JA:532:ASN:HD22	1.80	0.46
5:UB:455:LEU:HA	5:UB:458:ILE:HD12	1.98	0.46
6:UC:525:LEU:HD13	6:UC:528:LEU:HD12	1.96	0.46
13:UJ:196:LEU:HD23	13:UJ:196:LEU:HA	1.75	0.46
15:UL:54:ILE:HG22	15:UL:383:HIS:HB3	1.98	0.46
15:UL:340:SER:OG	15:UL:341:ALA:N	2.48	0.46
17:UN:302:VAL:HG21	47:JP:273:GLU:HA	1.96	0.46
18:UO:125:HIS:HB3	18:UO:145:ASP:HB2	1.96	0.46
23:UT:37:ARG:NH2	23:UT:40:ASP:OD2	2.38	0.46
23:UT:437:LEU:HB2	23:UT:484:ILE:HG21	1.97	0.46
23:UT:498:ILE:HA	23:UT:501:LEU:HG	1.96	0.46
23:UT:559:ASN:ND2	23:UT:599:GLU:OE1	2.49	0.46
23:UT:1013:THR:N	53:DI:115:ALA:O	2.44	0.46
23:UT:1340:SER:O	23:UT:1344:TRP:N	2.45	0.46
23:UT:1489:ILE:HG23	23:UT:1507:THR:HB	1.98	0.46
24:UU:847:LEU:HD11	42:JJ:266:VAL:HG23	1.96	0.46
30:CF:52:ILE:HD13	30:CF:101:SER:HB2	1.97	0.46
35:CL:162:HIS:HE1	35:CL:897:CYS:HB3	1.80	0.46
36:CM:215:VAL:HG21	36:CM:273:GLU:HA	1.97	0.46
37:CN:23:HIS:HB3	37:CN:26:LEU:HB2	1.97	0.46
40:JH:260:TYR:HA	40:JH:306:ALA:HB2	1.96	0.46
42:JJ:94:PHE:HA	42:JJ:141:THR:O	2.15	0.46
50:DF:39:GLU:OE1	50:DF:41:LYS:NZ	2.47	0.46
61:DX:53:VAL:HA	61:DX:74:VAL:HG12	1.98	0.46
62:DY:51:GLU:HG3	62:DY:53:ASP:H	1.80	0.46
66:D3:817:A:N6	66:D3:854:U:O4	2.49	0.46
66:D3:1068:C:H2'	66:D3:1069:A:C8	2.51	0.46
66:D3:1776:A:H2'	66:D3:1777:G:C8	2.50	0.46
2:DA:143:THR:HA	2:DA:207:LEU:HA	1.98	0.46
3:JA:770:GLU:HG3	3:JA:772:ASN:HD21	1.80	0.46
7:UD:34:HIS:NE2	7:UD:751:GLU:OE1	2.45	0.46
7:UD:282:ASP:OD1	7:UD:282:ASP:N	2.41	0.46
15:UL:467:THR:O	15:UL:467:THR:OG1	2.34	0.46
16:UM:16:TYR:HB2	16:UM:34:THR:HB	1.98	0.46
18:UO:404:ALA:HB2	18:UO:417:VAL:HG11	1.97	0.46
23:UT:1520:TRP:HE1	23:UT:1587:LYS:HE3	1.80	0.46
24:UU:656:ASN:HB3	24:UU:659:GLN:H	1.81	0.46
25:UV:521:LEU:HD22	25:UV:960:LYS:HG3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:CJ:72:GLN:OE1	33:CJ:73:VAL:N	2.49	0.46
35:CL:634:ARG:HD2	36:CM:185:ARG:HD3	1.96	0.46
37:CN:88:LEU:HB2	37:CN:125:LEU:HB2	1.98	0.46
38:JC:359:ILE:HD11	51:DG:68:LEU:HD21	1.96	0.46
51:DG:183:ARG:NH1	66:D3:267:U:OP1	2.45	0.46
3:JA:191:SER:HB2	3:JA:485:TRP:HE1	1.80	0.46
4:UA:513:GLU:O	58:DQ:114:ARG:NH1	2.47	0.46
7:UD:548:GLY:O	7:UD:566:LEU:N	2.40	0.46
8:UE:28:ARG:HA	8:UE:51:LEU:O	2.16	0.46
15:UL:260:GLU:HB3	15:UL:273:TYR:CE1	2.50	0.46
22:US:190:ASP:OD1	22:US:190:ASP:N	2.49	0.46
23:UT:12:LYS:HE2	23:UT:12:LYS:HB3	1.73	0.46
23:UT:363:ALA:HB1	23:UT:403:LEU:HD21	1.97	0.46
23:UT:723:GLY:HA3	23:UT:751:SER:HB2	1.98	0.46
23:UT:1188:LYS:HE3	23:UT:1188:LYS:HB3	1.84	0.46
23:UT:1559:LEU:HA	23:UT:1562:VAL:HG22	1.97	0.46
23:UT:1944:ILE:HA	23:UT:1947:VAL:HG22	1.97	0.46
26:UX:145:VAL:HG13	26:UX:170:ILE:HG13	1.98	0.46
28:CD:182:ASP:OD1	28:CD:314:ARG:NH2	2.49	0.46
39:JG:77:LEU:HD22	39:JG:84:ILE:HG13	1.97	0.46
66:D3:163:G:OP2	66:D3:163:G:N2	2.39	0.46
66:D3:1150:G:H2'	66:D3:1151:A:C8	2.50	0.46
66:D3:1707:A:H8	66:D3:1707:A:O5'	1.99	0.46
66:D3:1748:G:H2'	66:D3:1749:A:H8	1.80	0.46
4:UA:247:SER:H	4:UA:249:ARG:NH1	2.14	0.46
4:UA:267:THR:HG22	4:UA:276:ALA:HB3	1.97	0.46
7:UD:146:SER:OG	7:UD:147:ILE:N	2.49	0.46
8:UE:481:LEU:HD22	8:UE:502:VAL:HG23	1.97	0.46
14:UK:24:ARG:HD3	44:JM:216:ARG:HD3	1.98	0.46
15:UL:535:LEU:HD11	15:UL:551:LEU:HD12	1.98	0.46
18:UO:147:ARG:NH1	18:UO:168:THR:O	2.46	0.46
20:UQ:455:SER:O	20:UQ:455:SER:OG	2.30	0.46
20:UQ:721:ALA:N	20:UQ:744:ILE:O	2.42	0.46
23:UT:386:LEU:HD11	23:UT:420:PHE:HB2	1.97	0.46
23:UT:535:ASN:HB3	23:UT:537:LEU:HD23	1.98	0.46
23:UT:974:TYR:CG	23:UT:1024:GLN:HB3	2.51	0.46
31:CH:160:ILE:HG22	31:CH:523:LYS:HB3	1.98	0.46
38:JC:156:GLY:HA2	38:JC:162:LEU:HA	1.96	0.46
42:JJ:146:THR:OG1	42:JJ:148:ASP:OD1	2.34	0.46
42:JJ:183:GLU:HG2	42:JJ:240:ILE:HD12	1.98	0.46
44:JM:50:SER:OG	44:JM:51:LYS:N	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:JP:381:GLU:O	47:JP:382:ARG:NH1	2.43	0.46
49:DE:41:SER:OG	49:DE:42:LEU:N	2.49	0.46
55:DL:40:LEU:HD13	66:D3:246:G:N3	2.30	0.46
55:DL:94:ILE:HA	55:DL:95:PRO:HD3	1.80	0.46
66:D3:107:C:H2'	66:D3:108:A:C8	2.50	0.46
66:D3:1068:C:H2'	66:D3:1069:A:H8	1.81	0.46
4:UA:420:ARG:NH2	34:CK:494:GLU:OE2	2.38	0.46
3:JB:737:TRP:O	3:JB:740:ASN:C	2.54	0.46
14:UK:82:ARG:CZ	35:CL:1089:GLN:HB3	2.46	0.46
20:UQ:377:SER:OG	20:UQ:378:ASP:N	2.48	0.46
20:UQ:719:ASN:HD21	20:UQ:746:PHE:HB2	1.80	0.46
21:UR:249:SER:N	21:UR:269:ASP:OD2	2.48	0.46
21:UR:376:LEU:HG	21:UR:386:ILE:HG12	1.97	0.46
23:UT:1405:GLY:HA3	23:UT:1417:TYR:CZ	2.50	0.46
24:UU:234:ASN:OD1	24:UU:235:MET:N	2.48	0.46
25:UV:222:PHE:HD2	25:UV:225:LEU:HD11	1.80	0.46
25:UV:249:ASP:N	25:UV:249:ASP:OD1	2.48	0.46
25:UV:400:LEU:HB3	25:UV:412:LEU:HD23	1.97	0.46
25:UV:584:GLU:OE1	25:UV:616:LYS:NZ	2.44	0.46
27:UZ:60:THR:HG23	27:UZ:61:LYS:HG2	1.97	0.46
27:UZ:142:ARG:HD2	27:UZ:145:HIS:HD2	1.81	0.46
28:CD:389:ILE:HG22	30:CG:62:GLU:HB2	1.98	0.46
29:CE:198:ILE:HG22	29:CE:199:VAL:HG13	1.98	0.46
31:CH:442:ILE:HA	31:CH:472:PRO:HA	1.97	0.46
35:CL:170:VAL:HG12	35:CL:205:PHE:HB2	1.96	0.46
66:D3:793:A:H2	66:D3:796:A:H3'	1.80	0.46
66:D3:1276:U:C2	66:D3:1433:G:N1	2.84	0.46
66:D3:1739:C:H2'	66:D3:1740:A:C8	2.50	0.46
67:D4:94:A:H2'	67:D4:95:A:H8	1.80	0.46
1:CA:239:CYS:SG	1:CA:240:VAL:N	2.89	0.46
3:JA:752:ASN:ND2	3:JA:757:GLU:O	2.49	0.46
4:UA:205:LYS:NZ	4:UA:219:GLU:OE1	2.42	0.46
7:UD:186:GLN:HG2	7:UD:188:ALA:H	1.81	0.46
7:UD:519:THR:OG1	7:UD:520:LYS:N	2.49	0.46
7:UD:649:TRP:HB3	7:UD:654:ILE:HG23	1.97	0.46
13:UJ:210:LEU:HD21	13:UJ:253:CYS:HA	1.97	0.46
15:UL:912:TRP:CG	16:UM:779:VAL:HG21	2.51	0.46
18:UO:188:SER:OG	18:UO:191:GLY:O	2.33	0.46
23:UT:1224:LEU:HD23	23:UT:1227:ILE:HD11	1.98	0.46
23:UT:1335:GLY:O	23:UT:1337:LYS:NZ	2.49	0.46
25:UV:376:SER:O	25:UV:388:PHE:N	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:UV:749:SER:OG	25:UV:787:GLU:OE1	2.32	0.46
35:CL:866:ARG:CZ	61:DX:69:ARG:HH12	2.28	0.46
36:CM:200:VAL:HG12	36:CM:204:LEU:HD13	1.97	0.46
42:JJ:158:PHE:CD2	42:JJ:175:LEU:HB2	2.51	0.46
47:JP:138:SER:HB3	47:JP:148:TRP:HE1	1.81	0.46
49:DE:163:ASP:OD1	49:DE:166:SER:N	2.49	0.46
55:DL:94:ILE:HD13	55:DL:99:ARG:HH12	1.81	0.46
60:DW:31:SER:HB2	60:DW:34:ILE:HG13	1.98	0.46
65:D2:394:U:H5''	65:D2:395:C:H5'	1.98	0.46
66:D3:410:A:H2'	66:D3:411:C:C6	2.51	0.46
66:D3:575:C:HO2'	66:D3:576:G:H8	1.63	0.46
66:D3:1151:A:H2'	66:D3:1152:A:H8	1.81	0.46
66:D3:1272:U:O2	66:D3:1438:G:C6	2.68	0.46
2:DA:127:VAL:HG11	2:DA:173:THR:HA	1.97	0.46
3:JA:34:ARG:HB3	3:JA:94:PHE:CG	2.51	0.46
7:UD:449:LYS:HD2	7:UD:449:LYS:HA	1.83	0.46
7:UD:581:SER:OG	7:UD:582:VAL:N	2.49	0.46
13:UJ:798:ASP:HB3	13:UJ:801:ILE:HD12	1.98	0.46
14:UK:155:THR:OG1	14:UK:156:SER:N	2.45	0.46
15:UL:14:PHE:HB2	15:UL:681:ILE:HB	1.97	0.46
16:UM:505:ILE:HD12	16:UM:517:ILE:HD11	1.98	0.46
23:UT:494:THR:HA	23:UT:497:ILE:HG12	1.98	0.46
23:UT:899:ASP:HA	23:UT:902:THR:HG22	1.98	0.46
23:UT:1083:TYR:CE2	23:UT:1125:ASP:HB2	2.50	0.46
23:UT:1199:LEU:O	23:UT:1203:VAL:HG23	2.16	0.46
25:UV:481:THR:OG1	25:UV:482:VAL:N	2.49	0.46
26:UX:103:MET:HE2	26:UX:127:ARG:HE	1.81	0.46
28:CD:4:ILE:HG22	28:CD:23:GLN:HE21	1.80	0.46
35:CL:98:LEU:HD12	35:CL:98:LEU:HA	1.79	0.46
35:CL:873:LYS:NZ	66:D3:576:G:OP2	2.37	0.46
38:JC:74:THR:HG21	38:JC:101:ASN:HB3	1.98	0.46
39:JG:189:VAL:HG21	39:JG:241:PHE:HA	1.98	0.46
51:DG:79:LYS:HG2	51:DG:86:PRO:HB3	1.97	0.46
58:DQ:94:GLN:HG3	58:DQ:102:LYS:HE2	1.96	0.46
66:D3:162:A:H3'	66:D3:163:G:H21	1.81	0.46
3:JA:195:ASN:HB2	3:JA:485:TRP:CD1	2.51	0.45
4:UA:431:ILE:HG21	4:UA:452:ASN:HB2	1.97	0.45
4:UA:722:THR:HG22	4:UA:724:HIS:H	1.81	0.45
8:UE:259:PRO:O	8:UE:273:LYS:NZ	2.36	0.45
9:UF:320:ILE:HG23	9:UF:335:ILE:HD12	1.98	0.45
16:UM:264:ASP:HB2	16:UM:266:ILE:HG12	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:UO:420:GLU:OE1	18:UO:424:ARG:NE	2.49	0.45
21:UR:254:LEU:HD21	21:UR:586:VAL:HG11	1.97	0.45
23:UT:299:TYR:O	23:UT:303:ASN:ND2	2.49	0.45
23:UT:1605:THR:O	23:UT:1609:ARG:N	2.50	0.45
24:UU:228:GLY:O	24:UU:245:LYS:HA	2.16	0.45
25:UV:803:LYS:NZ	25:UV:859:ASP:OD1	2.40	0.45
25:UV:1086:ASN:O	25:UV:1090:THR:HG23	2.16	0.45
25:UV:1100:VAL:HB	25:UV:1182:ILE:HB	1.98	0.45
32:CI:90:THR:HG22	32:CI:92:SER:H	1.80	0.45
33:CJ:200:LYS:HA	33:CJ:203:VAL:HG12	1.99	0.45
60:DW:4:SER:OG	60:DW:9:ASP:OD1	2.33	0.45
65:D2:217:C:H2'	65:D2:218:U:H6	1.79	0.45
66:D3:389:G:H2'	66:D3:390:G:H8	1.81	0.45
66:D3:651:G:H2'	66:D3:652:G:C8	2.52	0.45
4:UA:663:GLY:HA3	32:CI:147:ALA:O	2.16	0.45
13:UJ:54:LYS:HB2	13:UJ:54:LYS:HE3	1.77	0.45
13:UJ:763:LEU:HB3	13:UJ:768:LYS:HZ3	1.80	0.45
13:UJ:1408:ILE:HG21	13:UJ:1444:ILE:HG22	1.98	0.45
15:UL:763:ILE:HD13	15:UL:838:THR:HG21	1.97	0.45
16:UM:239:VAL:HG11	16:UM:241:GLN:HE21	1.81	0.45
16:UM:551:SER:N	16:UM:581:CYS:SG	2.90	0.45
17:UN:330:THR:OG1	17:UN:331:GLN:OE1	2.25	0.45
18:UO:215:VAL:HA	18:UO:230:GLY:HA3	1.98	0.45
20:UQ:124:LYS:HA	20:UQ:124:LYS:HD2	1.77	0.45
20:UQ:278:GLY:HA2	20:UQ:300:VAL:HG23	1.98	0.45
20:UQ:773:ASP:OD1	20:UQ:773:ASP:N	2.48	0.45
22:US:145:ASN:OD1	22:US:194:TYR:CE1	2.69	0.45
23:UT:55:LYS:NZ	23:UT:71:GLU:OE2	2.44	0.45
23:UT:673:ARG:HH12	23:UT:773:LEU:HB2	1.81	0.45
23:UT:1544:ALA:O	23:UT:1548:ILE:HG12	2.16	0.45
24:UU:592:ASP:OD1	24:UU:593:PHE:N	2.46	0.45
28:CD:14:GLY:HA3	28:CD:55:PRO:HA	1.98	0.45
32:CI:123:THR:OG1	32:CI:126:ASP:OD2	2.33	0.45
52:DH:76:LYS:HA	52:DH:76:LYS:HD2	1.73	0.45
65:D2:361:G:N2	65:D2:364:A:OP2	2.49	0.45
66:D3:39:A:C5'	66:D3:39:A:C8	2.96	0.45
66:D3:1706:C:H2'	66:D3:1707:A:C4	2.50	0.45
3:JA:898:ILE:HA	3:JA:901:GLU:HG3	1.98	0.45
4:UA:202:ASP:O	4:UA:204:GLU:N	2.40	0.45
4:UA:351:LEU:HD13	4:UA:696:ALA:HB2	1.99	0.45
1:CB:103:GLU:HA	14:UK:194:LYS:HE3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:UB:701:ALA:HB1	22:US:422:ILE:HD11	1.99	0.45
10:UG:53:TYR:HD1	17:UN:863:MET:HB2	1.82	0.45
13:UJ:1697:ALA:HB2	13:UJ:1735:GLU:HB3	1.98	0.45
16:UM:406:ALA:HB2	16:UM:440:VAL:HG13	1.97	0.45
18:UO:315:ASN:N	18:UO:315:ASN:OD1	2.48	0.45
20:UQ:437:THR:HB	20:UQ:709:ARG:HD2	1.97	0.45
22:US:299:LEU:HA	22:US:299:LEU:HD23	1.82	0.45
22:US:421:PHE:HA	22:US:435:LEU:HD11	1.98	0.45
23:UT:725:ASN:OD1	23:UT:747:TRP:NE1	2.47	0.45
24:UU:307:GLN:NE2	29:CE:422:THR:O	2.49	0.45
35:CL:1152:ARG:O	35:CL:1155:GLU:HG3	2.16	0.45
39:JG:89:PRO:HG2	39:JG:134:PHE:HZ	1.81	0.45
46:JO:137:ARG:NE	66:D3:1027:A:OP1	2.50	0.45
47:JP:306:SER:HB3	47:JP:326:ASP:HB2	1.99	0.45
52:DH:48:GLU:HG2	52:DH:56:LYS:HD3	1.98	0.45
57:DO:120:PRO:HB3	66:D3:887:A:H5''	1.97	0.45
58:DQ:12:LYS:HZ2	58:DQ:17:THR:HG23	1.82	0.45
66:D3:69:G:C6	66:D3:83:G:C2	3.03	0.45
66:D3:272:U:O2'	66:D3:273:G:O4'	2.31	0.45
67:D4:305:G:H2'	67:D4:306:G:C8	2.51	0.45
3:JA:398:LYS:O	3:JA:401:LEU:C	2.54	0.45
3:JA:568:LEU:HD12	3:JA:569:PRO:HD2	1.99	0.45
4:UA:847:ARG:O	4:UA:851:SER:HB3	2.16	0.45
7:UD:355:THR:OG1	7:UD:372:MET:O	2.27	0.45
9:UF:331:ARG:O	9:UF:335:ILE:HG12	2.17	0.45
10:UG:388:ASP:HB2	10:UG:403:VAL:O	2.16	0.45
12:UI:447:ASN:HD21	12:UI:449:GLU:HB3	1.81	0.45
14:UK:18:GLN:OE1	14:UK:19:LEU:N	2.50	0.45
14:UK:68:HIS:CE1	32:CI:169:THR:HG21	2.51	0.45
15:UL:405:LEU:HD11	15:UL:673:VAL:HG11	1.99	0.45
23:UT:1367:ALA:O	23:UT:1371:ILE:HG12	2.15	0.45
38:JC:236:PHE:HA	38:JC:243:PHE:HA	1.98	0.45
39:JG:189:VAL:HG13	39:JG:244:GLY:HA3	1.99	0.45
49:DE:183:VAL:HG13	49:DE:190:GLY:H	1.82	0.45
51:DG:118:GLU:OE1	51:DG:119:GLN:NE2	2.50	0.45
51:DG:160:ARG:NE	66:D3:66:U:O2	2.38	0.45
52:DH:35:LYS:O	52:DH:39:ARG:HB2	2.16	0.45
60:DW:32:LYS:HE3	60:DW:32:LYS:HB2	1.57	0.45
65:D2:191:U:H2'	65:D2:192:G:C8	2.51	0.45
66:D3:183:U:H2'	66:D3:184:C:C6	2.52	0.45
4:UA:546:ASP:OD1	4:UA:546:ASP:N	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:UB:498:LEU:HD11	5:UB:545:VAL:HG11	1.99	0.45
8:UE:536:LEU:HD22	18:UO:453:VAL:HG12	1.97	0.45
9:UF:302:ILE:O	9:UF:306:LYS:HG3	2.17	0.45
10:UG:67:LEU:HB3	10:UG:410:ASN:HD22	1.82	0.45
12:UI:458:TRP:HA	12:UI:461:THR:HG22	1.99	0.45
22:US:368:SER:OG	22:US:369:THR:N	2.49	0.45
23:UT:117:LEU:HD22	23:UT:120:ASP:HB2	1.98	0.45
24:UU:480:SER:O	24:UU:480:SER:OG	2.32	0.45
25:UV:592:PHE:HB3	25:UV:599:VAL:HG22	1.98	0.45
27:UZ:172:ASP:HA	27:UZ:173:PRO:HD3	1.83	0.45
31:CH:235:HIS:ND1	31:CH:257:ASP:OD2	2.36	0.45
31:CH:365:PRO:HA	31:CH:368:LEU:HD12	1.98	0.45
33:CJ:241:THR:OG1	33:CJ:244:GLY:O	2.25	0.45
49:DE:91:THR:HG23	49:DE:98:ASN:ND2	2.32	0.45
57:DO:49:LYS:HE3	57:DO:49:LYS:HB2	1.81	0.45
66:D3:70:C:H2'	66:D3:71:A:C8	2.51	0.45
7:UD:554:ASP:O	7:UD:558:ARG:N	2.50	0.45
7:UD:768:ALA:O	19:UP:214:GLY:N	2.44	0.45
13:UJ:683:SER:OG	13:UJ:684:TYR:N	2.49	0.45
13:UJ:1762:GLU:OE1	13:UJ:1766:ARG:NH1	2.49	0.45
15:UL:639:VAL:HB	15:UL:653:LEU:HB2	1.98	0.45
18:UO:136:ASP:OD1	18:UO:137:ASN:N	2.49	0.45
18:UO:373:ILE:HB	21:UR:288:LEU:HD12	1.97	0.45
20:UQ:510:TYR:HE1	20:UQ:527:HIS:HB3	1.82	0.45
22:US:283:LYS:HG3	22:US:284:ARG:HG3	1.98	0.45
23:UT:438:GLU:HA	23:UT:764:ARG:HH12	1.82	0.45
23:UT:518:MET:O	23:UT:522:LEU:HG	2.16	0.45
23:UT:1024:GLN:OE1	23:UT:1024:GLN:N	2.45	0.45
23:UT:1905:SER:OG	23:UT:1906:GLU:N	2.49	0.45
25:UV:138:ILE:HD12	25:UV:238:HIS:HB3	1.99	0.45
25:UV:1022:MET:HA	25:UV:1025:THR:HG22	1.99	0.45
25:UV:1206:PRO:HA	25:UV:1212:VAL:HA	1.97	0.45
42:JJ:193:LEU:HD22	42:JJ:197:HIS:HB3	1.99	0.45
49:DE:202:ASP:OD1	49:DE:202:ASP:N	2.45	0.45
53:DI:99:ALA:H	53:DI:170:SER:HA	1.80	0.45
1:CA:128:PRO:HB3	1:CA:136:PRO:HG3	1.99	0.45
3:JA:789:LEU:HD12	3:JA:890:LEU:HD22	1.98	0.45
7:UD:76:ILE:HD13	7:UD:102:LEU:HD21	1.99	0.45
7:UD:575:ILE:HA	7:UD:582:VAL:HG12	1.99	0.45
13:UJ:747:GLN:HA	13:UJ:750:ASN:HD22	1.82	0.45
13:UJ:1348:LYS:HD2	13:UJ:1392:LEU:HD23	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:UJ:1380:LEU:HD12	13:UJ:1383:ALA:HB3	1.99	0.45
16:UM:235:LYS:NZ	16:UM:272:SER:O	2.48	0.45
16:UM:584:ILE:HG23	16:UM:586:LYS:H	1.82	0.45
20:UQ:334:LEU:HD23	20:UQ:337:LEU:HD11	1.99	0.45
22:US:213:LEU:HD13	22:US:268:GLN:HG3	1.99	0.45
22:US:466:LEU:HD23	22:US:466:LEU:HA	1.75	0.45
23:UT:237:THR:O	23:UT:241:THR:HG22	2.16	0.45
23:UT:513:ASN:HA	23:UT:516:LYS:HD2	1.99	0.45
23:UT:1083:TYR:CE1	23:UT:1121:PHE:HB3	2.52	0.45
23:UT:1304:LEU:HD11	23:UT:1346:PRO:HB2	1.97	0.45
25:UV:98:PHE:HA	25:UV:101:ASN:HD22	1.82	0.45
25:UV:141:TRP:CD1	25:UV:178:TYR:HB3	2.51	0.45
31:CH:207:ARG:HD3	67:D4:197:G:H21	1.82	0.45
35:CL:304:LEU:O	35:CL:788:TYR:CB	2.65	0.45
38:JC:54:GLU:HA	38:JC:337:PRO:HA	1.97	0.45
38:JC:357:ASP:OD1	38:JC:357:ASP:N	2.46	0.45
50:DF:72:HIS:O	50:DF:72:HIS:ND1	2.49	0.45
65:D2:474:A:H2'	65:D2:475:G:C8	2.50	0.45
66:D3:185:U:H2'	66:D3:186:C:C6	2.51	0.45
66:D3:209:U:H2'	66:D3:210:A:C8	2.52	0.45
3:JA:195:ASN:HB3	3:JA:198:CYS:SG	2.57	0.45
4:UA:586:SER:OG	4:UA:587:PHE:N	2.50	0.45
8:UE:528:SER:O	8:UE:532:ARG:HG2	2.17	0.45
10:UG:228:LEU:HD22	10:UG:264:PRO:HA	1.99	0.45
13:UJ:681:ALA:O	13:UJ:685:SER:CB	2.64	0.45
14:UK:156:SER:OG	14:UK:157:GLU:N	2.49	0.45
15:UL:756:LEU:HD12	15:UL:805:ILE:HD13	1.97	0.45
16:UM:172:VAL:HG13	16:UM:186:LEU:HB2	1.98	0.45
20:UQ:204:ASN:ND2	20:UQ:266:ASN:HB3	2.32	0.45
20:UQ:265:ASP:OD1	20:UQ:266:ASN:N	2.50	0.45
23:UT:668:GLY:O	23:UT:672:VAL:HG23	2.17	0.45
23:UT:1927:SER:OG	23:UT:1928:ASP:N	2.49	0.45
25:UV:587:GLY:HA3	25:UV:611:ASP:H	1.82	0.45
25:UV:678:ILE:H	25:UV:678:ILE:HD12	1.82	0.45
29:CE:201:ASP:OD1	29:CE:204:ALA:N	2.46	0.45
39:JG:54:LYS:NZ	39:JG:56:SER:OG	2.49	0.45
65:D2:210:U:H2'	65:D2:211:G:H8	1.82	0.45
66:D3:641:G:N2	66:D3:693:U:O2	2.50	0.45
66:D3:843:U:H2'	66:D3:844:A:C8	2.51	0.45
7:UD:61:THR:HG21	7:UD:681:ILE:HD12	1.98	0.45
16:UM:57:SER:O	16:UM:57:SER:OG	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:UO:233:ASN:HD22	18:UO:247:GLU:HG3	1.82	0.45
20:UQ:66:LEU:HG	20:UQ:125:LEU:HD11	1.98	0.45
20:UQ:531:PHE:HD2	20:UQ:545:THR:HB	1.82	0.45
20:UQ:690:ASN:ND2	20:UQ:751:SER:OG	2.49	0.45
23:UT:1157:ILE:HD11	23:UT:1170:LEU:HD11	1.99	0.45
25:UV:846:GLU:OE1	25:UV:846:GLU:N	2.49	0.45
26:UX:22:ASP:OD1	26:UX:23:GLN:N	2.49	0.45
36:CM:46:LYS:N	36:CM:49:GLU:OE1	2.50	0.45
47:JP:73:ILE:HG12	47:JP:85:THR:HG22	1.98	0.45
47:JP:296:ARG:HG2	47:JP:458:LYS:HE2	1.99	0.45
50:DF:80:LYS:O	66:D3:1615:C:N4	2.49	0.45
60:DW:46:TYR:HB3	60:DW:69:LEU:HD13	1.98	0.45
66:D3:118:U:O2	66:D3:298:C:N3	2.50	0.45
2:DA:138:PHE:HB3	2:DA:213:ARG:HH21	1.81	0.45
5:UB:495:ASN:ND2	5:UB:621:THR:OG1	2.42	0.45
6:UC:580:ARG:HG2	6:UC:581:ALA:H	1.82	0.45
9:UF:15:MET:HG3	9:UF:29:VAL:HG13	1.99	0.45
10:UG:133:HIS:NE2	10:UG:147:GLU:OE2	2.46	0.45
15:UL:42:ILE:HG12	15:UL:51:ILE:HB	1.98	0.45
15:UL:46:LEU:HD22	15:UL:657:GLN:HE22	1.82	0.45
15:UL:621:VAL:HA	15:UL:631:PHE:O	2.17	0.45
23:UT:133:ILE:HG22	23:UT:180:LEU:HD12	1.98	0.45
23:UT:315:LEU:HD21	23:UT:357:LYS:HB3	1.99	0.45
24:UU:310:ILE:O	24:UU:321:GLU:HA	2.17	0.45
50:DF:76:ARG:NH2	58:DQ:122:ARG:HG2	2.32	0.45
57:DO:11:SER:OG	57:DO:12:GLN:N	2.50	0.45
58:DQ:71:GLY:O	58:DQ:77:GLN:NE2	2.40	0.45
65:D2:189:U:C2	65:D2:209:G:N1	2.85	0.45
65:D2:198:A:H3'	65:D2:199:A:H8	1.81	0.45
66:D3:70:C:N3	66:D3:82:U:O2	2.50	0.45
66:D3:1275:A:C2	66:D3:1435:G:C2	3.05	0.45
66:D3:1530:C:H2'	66:D3:1531:G:H8	1.80	0.45
1:CB:91:HIS:HB2	1:CB:96:VAL:O	2.17	0.44
1:CB:220:ILE:HD11	1:CB:233:LEU:HD22	2.00	0.44
5:UB:548:ARG:NH1	5:UB:638:ASN:OD1	2.37	0.44
7:UD:183:LEU:HD22	7:UD:223:GLY:HA2	1.99	0.44
7:UD:741:LEU:HA	7:UD:756:GLU:HA	1.99	0.44
9:UF:105:GLN:NE2	9:UF:105:GLN:O	2.50	0.44
21:UR:239:LYS:O	21:UR:282:ASN:ND2	2.50	0.44
23:UT:1896:ILE:HD13	23:UT:1929:GLU:HG3	1.98	0.44
25:UV:1228:ASN:OD1	25:UV:1228:ASN:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:JC:316:ASP:OD1	38:JC:317:ILE:N	2.50	0.44
49:DE:233:LYS:HA	49:DE:233:LYS:HD2	1.78	0.44
54:DJ:7:THR:HG23	66:D3:770:A:H5''	1.99	0.44
55:DL:49:ILE:HG13	55:DL:50:GLU:HG2	1.98	0.44
56:DN:20:ARG:HE	60:DW:56:HIS:CE1	2.35	0.44
65:D2:426:G:C2	65:D2:428:A:H5''	2.52	0.44
66:D3:467:G:O5'	66:D3:467:G:C8	2.70	0.44
66:D3:753:A:N1	66:D3:797:G:O6	2.50	0.44
66:D3:809:A:H2'	66:D3:810:G:H4'	2.00	0.44
2:DA:207:LEU:HB2	2:DA:210:ILE:HD11	1.99	0.44
3:JA:50:LYS:HD2	3:JA:50:LYS:HA	1.79	0.44
4:UA:373:ASP:OD1	4:UA:374:ILE:N	2.46	0.44
8:UE:333:ASN:N	8:UE:333:ASN:OD1	2.50	0.44
8:UE:469:ILE:HG21	8:UE:505:CYS:HA	1.99	0.44
11:UH:309:PRO:HA	11:UH:330:ARG:HA	1.99	0.44
15:UL:472:HIS:CG	15:UL:492:SER:HG	2.34	0.44
20:UQ:312:LEU:HB2	20:UQ:326:LEU:HD11	1.99	0.44
20:UQ:850:GLU:HA	20:UQ:853:ILE:HD12	1.99	0.44
24:UU:548:ALA:O	24:UU:560:LEU:HA	2.17	0.44
25:UV:181:PRO:HG2	25:UV:183:ILE:HD11	1.99	0.44
25:UV:644:VAL:O	25:UV:648:PHE:HB2	2.17	0.44
25:UV:940:LYS:HG3	25:UV:975:LEU:HD11	1.98	0.44
26:UX:97:LEU:HB3	26:UX:128:LEU:HD22	2.00	0.44
30:CG:58:CYS:SG	30:CG:64:LEU:HD22	2.57	0.44
35:CL:830:ARG:HB3	35:CL:880:TYR:CD1	2.52	0.44
38:JC:237:ARG:NH1	38:JC:287:ASN:O	2.50	0.44
38:JC:274:ILE:HA	38:JC:292:CYS:HA	1.99	0.44
38:JC:274:ILE:HG22	38:JC:292:CYS:HB2	1.99	0.44
49:DE:211:LYS:HA	49:DE:216:ASN:O	2.17	0.44
51:DG:139:ASN:HD21	66:D3:142:G:H5''	1.81	0.44
55:DL:85:VAL:HA	55:DL:108:PRO:HA	1.98	0.44
65:D2:466:A:H2'	65:D2:467:A:C8	2.52	0.44
66:D3:1647:U:H2'	66:D3:1648:A:H8	1.81	0.44
66:D3:1696:G:H2'	66:D3:1697:G:H1'	1.99	0.44
5:UB:703:GLN:HB3	22:US:417:HIS:ND1	2.32	0.44
7:UD:310:ASN:OD1	20:UQ:289:GLN:NE2	2.51	0.44
7:UD:776:PHE:HB3	20:UQ:486:PHE:CD1	2.52	0.44
10:UG:172:LYS:HD3	10:UG:173:TYR:CZ	2.53	0.44
11:UH:539:ASN:OD1	11:UH:542:SER:OG	2.28	0.44
11:UH:548:PRO:HA	11:UH:576:ARG:HH12	1.82	0.44
13:UJ:121:LEU:HD23	13:UJ:121:LEU:HA	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:UJ:539:LEU:HA	13:UJ:542:ILE:HG22	2.00	0.44
16:UM:314:ILE:HG22	16:UM:329:VAL:HA	1.98	0.44
20:UQ:318:GLU:OE1	20:UQ:318:GLU:N	2.38	0.44
20:UQ:323:LEU:O	20:UQ:331:GLN:HA	2.17	0.44
20:UQ:712:THR:HG22	20:UQ:766:ILE:HG22	2.00	0.44
20:UQ:723:VAL:HG23	20:UQ:742:ARG:HB2	1.98	0.44
23:UT:117:LEU:HD23	23:UT:117:LEU:HA	1.86	0.44
23:UT:878:ASN:OD1	23:UT:878:ASN:N	2.48	0.44
23:UT:1381:LYS:HB3	23:UT:1386:GLU:HG3	1.99	0.44
25:UV:652:LYS:HG3	25:UV:667:CYS:HB2	1.99	0.44
25:UV:655:LEU:HD11	25:UV:663:ILE:HG22	2.00	0.44
28:CD:210:VAL:HG23	28:CD:216:PHE:HD1	1.82	0.44
35:CL:82:LYS:HG2	70:CL:2001:GTP:PB	2.55	0.44
39:JG:40:ARG:NH1	39:JG:172:PRO:HG3	2.32	0.44
39:JG:214:ASP:OD1	39:JG:214:ASP:N	2.45	0.44
47:JP:342:ILE:HD13	47:JP:419:VAL:HG12	1.99	0.44
65:D2:178:G:N2	65:D2:219:U:O2	2.33	0.44
66:D3:23:G:C2	66:D3:603:U:C2	3.05	0.44
66:D3:269:G:C5	66:D3:287:G:C2	3.06	0.44
66:D3:336:G:H3'	66:D3:338:C:H5	1.82	0.44
66:D3:340:U:H2'	66:D3:341:A:C8	2.52	0.44
66:D3:1688:U:H3	66:D3:1713:G:N2	2.16	0.44
66:D3:1787:C:H2'	66:D3:1788:G:C8	2.52	0.44
3:JA:82:LYS:HB3	3:JA:82:LYS:HE2	1.83	0.44
4:UA:475:PRO:O	4:UA:492:SER:HB2	2.17	0.44
4:UA:812:GLU:OE1	4:UA:813:HIS:NE2	2.50	0.44
5:UB:573:LEU:HD12	5:UB:573:LEU:HA	1.83	0.44
10:UG:185:HIS:ND1	32:CI:24:ASP:OD2	2.50	0.44
18:UO:120:ILE:HG12	18:UO:157:ALA:HB1	1.99	0.44
20:UQ:774:PHE:O	20:UQ:785:VAL:HA	2.18	0.44
23:UT:641:ARG:O	23:UT:645:VAL:HG23	2.18	0.44
24:UU:21:SER:OG	24:UU:22:LYS:N	2.50	0.44
25:UV:373:ARG:O	25:UV:516:SER:OG	2.36	0.44
28:CD:46:LYS:NZ	65:D2:485:G:OP2	2.50	0.44
29:CE:319:ILE:HD13	29:CE:319:ILE:HA	1.84	0.44
31:CH:168:ASN:ND2	31:CH:171:THR:H	2.16	0.44
35:CL:631:ILE:HD12	35:CL:631:ILE:HA	1.87	0.44
35:CL:964:ALA:H	35:CL:976:ILE:HG23	1.83	0.44
35:CL:1115:LYS:O	35:CL:1119:ILE:HG12	2.17	0.44
39:JG:128:VAL:HG23	39:JG:159:LEU:HD13	1.99	0.44
46:JO:84:THR:HB	46:JO:88:THR:HG21	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:DG:48:TYR:OH	51:DG:119:GLN:O	2.23	0.44
51:DG:173:PRO:O	66:D3:78:A:O2'	2.35	0.44
53:DI:56:ARG:NH2	66:D3:332:U:OP1	2.44	0.44
66:D3:1705:C:N4	66:D3:1706:C:N4	2.66	0.44
66:D3:1751:C:H2'	66:D3:1752:U:C6	2.53	0.44
67:D4:168:C:H2'	67:D4:169:A:C8	2.48	0.44
67:D4:312:U:H2'	67:D4:313:A:C8	2.53	0.44
3:JA:569:PRO:HD3	3:JA:583:LEU:HG	1.99	0.44
7:UD:325:ASN:N	7:UD:325:ASN:OD1	2.51	0.44
10:UG:224:LEU:HD21	10:UG:227:GLU:HG3	1.99	0.44
10:UG:484:PRO:HG2	10:UG:497:LEU:HD23	2.00	0.44
13:UJ:491:TYR:HE2	13:UJ:528:ARG:HB3	1.83	0.44
13:UJ:549:LYS:HE3	13:UJ:549:LYS:HB3	1.84	0.44
15:UL:183:ASP:O	15:UL:185:MET:N	2.50	0.44
20:UQ:713:CYS:HA	20:UQ:719:ASN:HA	1.98	0.44
23:UT:448:VAL:HA	23:UT:451:VAL:HG23	2.00	0.44
23:UT:769:THR:OG1	23:UT:770:TYR:N	2.51	0.44
23:UT:1247:LEU:HG	23:UT:1287:LEU:HD22	2.00	0.44
23:UT:1277:GLU:HB3	23:UT:1280:LEU:HB2	2.00	0.44
23:UT:1398:LEU:HA	23:UT:1401:ASN:HD21	1.82	0.44
23:UT:1706:LYS:HD2	23:UT:1706:LYS:HA	1.80	0.44
23:UT:1743:LYS:HA	23:UT:1746:LYS:HG2	2.00	0.44
24:UU:538:GLY:HA3	24:UU:575:GLN:NE2	2.32	0.44
25:UV:174:TYR:HE2	25:UV:227:LYS:HG3	1.82	0.44
25:UV:215:GLU:OE1	25:UV:223:ARG:NH1	2.40	0.44
25:UV:376:SER:OG	25:UV:377:SER:N	2.51	0.44
28:CD:147:LEU:O	28:CD:151:GLN:HG2	2.18	0.44
31:CH:284:LEU:HD22	31:CH:300:ALA:HB2	1.99	0.44
31:CH:529:SER:OG	31:CH:530:GLY:N	2.50	0.44
38:JC:239:ASP:N	38:JC:239:ASP:OD1	2.49	0.44
46:JO:72:VAL:HG22	46:JO:81:THR:HB	1.98	0.44
49:DE:45:ILE:HB	49:DE:80:THR:HG22	1.99	0.44
53:DI:35:ASN:O	53:DI:37:LYS:NZ	2.35	0.44
58:DQ:73:GLY:O	58:DQ:77:GLN:HB2	2.17	0.44
66:D3:554:C:H5	66:D3:571:G:C2	2.36	0.44
66:D3:1151:A:H2'	66:D3:1152:A:C8	2.53	0.44
7:UD:336:ILE:HG12	7:UD:349:SER:HB3	1.99	0.44
7:UD:689:ASN:OD1	7:UD:689:ASN:N	2.50	0.44
9:UF:186:VAL:HG21	9:UF:319:TYR:HE2	1.82	0.44
13:UJ:307:LYS:HA	13:UJ:307:LYS:HD2	1.83	0.44
13:UJ:684:TYR:O	13:UJ:688:PHE:CB	2.62	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:UJ:1355:ILE:HG21	13:UJ:1399:ALA:HB1	2.00	0.44
15:UL:368:PRO:O	15:UL:375:THR:OG1	2.34	0.44
18:UO:263:ASN:OD1	18:UO:269:GLN:NE2	2.50	0.44
19:UP:156:LYS:HA	19:UP:159:LYS:HG2	1.99	0.44
23:UT:1253:ASN:ND2	23:UT:1255:ASN:OD1	2.49	0.44
34:CK:529:ARG:NH2	66:D3:1754:A:N7	2.60	0.44
39:JG:104:ILE:N	39:JG:246:GLU:OE2	2.51	0.44
44:JM:193:GLU:O	44:JM:196:GLU:HG3	2.18	0.44
50:DF:207:THR:O	50:DF:207:THR:OG1	2.34	0.44
52:DH:38:LEU:HA	52:DH:41:LEU:HD13	1.99	0.44
54:DJ:2:PRO:HA	66:D3:380:U:H4'	1.99	0.44
57:DO:18:ARG:NH1	66:D3:918:U:O3'	2.50	0.44
65:D2:19:A:H2'	65:D2:20:C:C6	2.53	0.44
66:D3:114:C:N3	66:D3:247:A:C6	2.86	0.44
66:D3:1080:U:H2'	66:D3:1081:A:H8	1.83	0.44
66:D3:1775:U:H2'	66:D3:1776:A:C8	2.53	0.44
67:D4:111:G:O6	67:D4:260:U:O4	2.36	0.44
3:JA:508:PRO:O	3:JA:649:TYR:OH	2.35	0.44
3:JA:880:VAL:O	3:JA:884:ILE:HG12	2.18	0.44
5:UB:604:VAL:HG13	5:UB:606:PHE:HD2	1.82	0.44
8:UE:461:ASP:O	8:UE:465:ILE:HG12	2.18	0.44
13:UJ:550:TYR:O	13:UJ:553:SER:O	2.36	0.44
15:UL:415:LYS:HE2	15:UL:415:LYS:HB2	1.87	0.44
16:UM:593:CYS:HB3	16:UM:620:LEU:HG	1.99	0.44
20:UQ:681:ILE:HG12	20:UQ:688:VAL:HG22	1.99	0.44
23:UT:1012:ARG:HB3	53:DI:116:HIS:HA	1.99	0.44
26:UX:65:VAL:HA	26:UX:152:ILE:O	2.18	0.44
29:CE:89:VAL:HG11	29:CE:95:ALA:HB2	1.99	0.44
30:CG:118:LYS:HA	30:CG:121:ILE:HD12	2.00	0.44
33:CJ:143:HIS:HB2	33:CJ:151:SER:HB3	2.00	0.44
35:CL:120:CYS:HB3	35:CL:131:ILE:HG13	1.98	0.44
39:JG:46:ALA:HA	39:JG:115:GLN:HB3	1.99	0.44
47:JP:231:GLU:OE2	47:JP:250:ARG:NH1	2.33	0.44
62:DY:12:VAL:HA	62:DY:23:PHE:HB3	2.00	0.44
2:DA:42:ASN:OD1	2:DA:42:ASN:N	2.51	0.44
3:JA:214:LYS:HE2	3:JA:214:LYS:HB3	1.83	0.44
3:JA:522:THR:HG21	3:JA:706:PRO:HG2	1.99	0.44
7:UD:49:LEU:HD22	7:UD:69:ILE:HG12	1.99	0.44
16:UM:436:ALA:O	16:UM:459:ASN:N	2.51	0.44
20:UQ:334:LEU:HA	20:UQ:335:PRO:HD3	1.69	0.44
23:UT:640:ILE:HD11	51:DG:10:ASN:HA	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:UV:439:HIS:HE1	25:UV:460:GLU:HB2	1.83	0.44
26:UX:90:LEU:HD12	26:UX:94:CYS:SG	2.57	0.44
28:CD:118:CYS:O	47:JP:156:SER:OG	2.31	0.44
30:CG:22:ASP:OD1	31:CH:342:ARG:NH2	2.47	0.44
39:JF:243:HIS:ND1	39:JF:246:GLU:OE1	2.46	0.44
49:DE:187:ARG:NH2	66:D3:790:U:OP1	2.37	0.44
53:DI:81:VAL:HG11	53:DI:94:ASN:HA	2.00	0.44
3:JA:888:ILE:HD11	3:JA:898:ILE:HD13	2.00	0.44
8:UE:365:SER:OG	8:UE:366:GLY:N	2.51	0.44
10:UG:49:ILE:HG21	17:UN:860:SER:HA	1.99	0.44
10:UG:178:ASP:OD2	26:UX:24:ARG:NH1	2.40	0.44
13:UJ:314:GLN:OE1	13:UJ:357:ARG:NE	2.51	0.44
13:UJ:616:PRO:O	13:UJ:620:GLU:HG2	2.18	0.44
13:UJ:1547:LEU:O	13:UJ:1551:LEU:HG	2.17	0.44
15:UL:162:HIS:CG	15:UL:181:SER:HG	2.33	0.44
16:UM:560:TRP:CD1	16:UM:567:VAL:HA	2.53	0.44
23:UT:704:ILE:HD13	23:UT:704:ILE:HA	1.89	0.44
24:UU:327:SER:OG	24:UU:336:VAL:O	2.29	0.44
25:UV:527:TYR:HB2	25:UV:615:VAL:HB	2.00	0.44
25:UV:738:TYR:O	25:UV:742:PHE:HB2	2.18	0.44
33:CJ:196:THR:HG23	33:CJ:199:GLY:H	1.82	0.44
38:JC:4:LYS:HE2	38:JC:359:ILE:HG22	2.00	0.44
44:JM:175:GLU:HA	44:JM:178:MET:HG2	2.00	0.44
56:DN:124:ARG:NH1	66:D3:966:A:OP2	2.51	0.44
3:JA:187:ARG:NH1	3:JA:489:LEU:O	2.43	0.43
3:JA:782:ARG:HH21	3:JA:809:LYS:HE3	1.83	0.43
4:UA:63:LEU:HD11	4:UA:67:GLY:HA2	1.99	0.43
4:UA:450:LEU:HA	4:UA:475:PRO:HB3	2.00	0.43
10:UG:409:ALA:O	47:JP:8:ARG:NH1	2.49	0.43
11:UH:185:SER:HA	11:UH:201:PHE:HA	1.99	0.43
11:UH:520:PRO:CD	11:UH:520:PRO:O	2.64	0.43
13:UJ:1595:THR:HA	13:UJ:1598:LEU:HG	1.98	0.43
15:UL:574:LEU:HD12	15:UL:594:ASP:HB3	2.00	0.43
15:UL:866:LYS:HB3	15:UL:866:LYS:HE2	1.66	0.43
16:UM:442:LEU:HA	16:UM:443:PRO:HD3	1.89	0.43
20:UQ:386:ASN:HD21	20:UQ:389:LEU:HD11	1.83	0.43
20:UQ:558:THR:O	20:UQ:558:THR:OG1	2.36	0.43
21:UR:351:THR:OG1	21:UR:352:GLN:N	2.50	0.43
23:UT:28:ILE:HD11	23:UT:191:PHE:CD1	2.54	0.43
23:UT:132:LEU:HD23	23:UT:132:LEU:HA	1.81	0.43
23:UT:201:ARG:O	23:UT:250:LYS:NZ	2.38	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:UU:880:LEU:HD23	24:UU:880:LEU:HA	1.80	0.43
25:UV:134:ILE:HG23	25:UV:242:LEU:HD12	1.99	0.43
25:UV:773:TYR:CE1	25:UV:1142:LYS:HD2	2.52	0.43
28:CD:4:ILE:H	28:CD:23:GLN:NE2	2.12	0.43
28:CD:397:SER:OG	28:CD:399:VAL:HG12	2.18	0.43
35:CL:847:LEU:HA	35:CL:898:GLY:HA2	1.99	0.43
38:JC:66:ARG:HB3	38:JC:109:ASP:HA	1.99	0.43
38:JC:256:ASP:HB2	38:JC:259:THR:HG22	2.00	0.43
43:JK:490:ILE:HA	43:JK:493:PHE:HB3	1.99	0.43
49:DE:37:LYS:NZ	49:DE:40:GLU:OE2	2.45	0.43
52:DH:78:THR:HG22	52:DH:92:PHE:HE1	1.83	0.43
54:DJ:10:LYS:HE3	54:DJ:10:LYS:HB3	1.87	0.43
66:D3:242:U:H2'	66:D3:243:G:C8	2.53	0.43
5:UB:799:TYR:HH	61:DX:42:PRO:N	2.16	0.43
7:UD:95:LYS:NZ	7:UD:96:ASP:OD2	2.37	0.43
7:UD:238:SER:O	7:UD:238:SER:OG	2.33	0.43
7:UD:285:CYS:HB2	7:UD:298:ALA:HB3	2.00	0.43
8:UE:543:LEU:HD22	18:UO:460:ALA:HA	1.99	0.43
9:UF:144:VAL:HG12	9:UF:181:LEU:HD22	2.00	0.43
12:UI:463:LYS:HA	12:UI:463:LYS:HD3	1.91	0.43
13:UJ:646:ASN:OD1	13:UJ:646:ASN:N	2.51	0.43
13:UJ:768:LYS:HE2	13:UJ:768:LYS:HB2	1.76	0.43
16:UM:194:ARG:HA	16:UM:194:ARG:HD2	1.83	0.43
20:UQ:182:LYS:HD3	20:UQ:182:LYS:HA	1.83	0.43
23:UT:897:PHE:O	23:UT:900:GLU:HG3	2.17	0.43
24:UU:378:PHE:HA	24:UU:386:SER:HB2	1.99	0.43
38:JC:144:LEU:HD11	38:JC:153:LEU:HD12	2.00	0.43
39:JG:51:GLU:HB3	39:JG:68:LEU:HD12	1.99	0.43
42:JJ:103:PRO:HA	42:JJ:106:MET:HB3	1.99	0.43
56:DN:66:ILE:HG23	56:DN:67:THR:HG23	1.99	0.43
4:UA:411:VAL:HG13	4:UA:425:PHE:HB2	2.01	0.43
4:UA:749:TYR:CE1	24:UU:708:ASN:HB2	2.53	0.43
5:UB:488:ASN:ND2	5:UB:491:ASP:HB2	2.34	0.43
5:UB:612:THR:HG23	5:UB:614:ILE:H	1.83	0.43
7:UD:554:ASP:O	7:UD:558:ARG:CA	2.66	0.43
10:UG:244:ASN:HD21	10:UG:444:LEU:HA	1.82	0.43
13:UJ:407:PHE:O	13:UJ:410:ILE:C	2.56	0.43
16:UM:786:ILE:O	16:UM:789:THR:OG1	2.27	0.43
18:UO:139:ILE:HD11	18:UO:151:LEU:HD23	1.99	0.43
20:UQ:308:ASP:N	20:UQ:308:ASP:OD1	2.51	0.43
20:UQ:488:LEU:HD23	20:UQ:488:LEU:HA	1.88	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:UQ:623:PHE:HD1	20:UQ:632:ILE:HG12	1.83	0.43
23:UT:155:LEU:HD23	23:UT:155:LEU:HA	1.83	0.43
23:UT:315:LEU:O	23:UT:319:THR:HG23	2.18	0.43
23:UT:550:GLU:OE1	23:UT:588:ASN:ND2	2.48	0.43
23:UT:1140:GLN:O	23:UT:1188:LYS:NZ	2.36	0.43
24:UU:115:ASP:OD1	24:UU:115:ASP:N	2.48	0.43
24:UU:484:ILE:HB	24:UU:498:TYR:HB2	2.00	0.43
24:UU:738:ASP:N	24:UU:738:ASP:OD1	2.47	0.43
26:UX:52:PHE:HB3	26:UX:55:TYR:HB3	2.00	0.43
27:UZ:228:LYS:O	27:UZ:232:GLY:N	2.44	0.43
32:CI:68:ASP:HB3	32:CI:71:ARG:HB3	2.00	0.43
35:CL:72:VAL:HG23	35:CL:117:PHE:HA	1.99	0.43
35:CL:82:LYS:CB	70:CL:2001:GTP:O1B	2.66	0.43
38:JC:153:LEU:HD23	38:JC:167:LEU:HD11	2.00	0.43
50:DF:25:LEU:HD13	50:DF:29:ILE:HD12	2.00	0.43
51:DG:185:GLN:HA	51:DG:188:ARG:HE	1.83	0.43
55:DL:83:THR:HG22	55:DL:110:HIS:HA	2.01	0.43
57:DO:47:LYS:HD2	57:DO:47:LYS:HA	1.63	0.43
65:D2:208:A:H2'	65:D2:209:G:C8	2.53	0.43
66:D3:647:G:H1	66:D3:687:G:H1	1.66	0.43
1:CB:198:GLU:OE2	1:CB:199:PHE:N	2.48	0.43
7:UD:250:THR:O	7:UD:252:GLN:N	2.51	0.43
8:UE:349:ASP:OD1	8:UE:349:ASP:N	2.40	0.43
8:UE:443:GLN:HE21	18:UO:252:ASN:ND2	2.17	0.43
9:UF:172:LEU:HD13	9:UF:172:LEU:HA	1.87	0.43
10:UG:295:ASP:N	10:UG:295:ASP:OD1	2.47	0.43
10:UG:445:ASP:HA	10:UG:446:PRO:HD3	1.87	0.43
11:UH:676:TRP:CD1	12:UI:486:LEU:HB2	2.53	0.43
13:UJ:180:ILE:HD11	13:UJ:219:ASN:HD22	1.84	0.43
13:UJ:1686:ILE:O	13:UJ:1690:LEU:HG	2.17	0.43
16:UM:183:LEU:HB3	16:UM:184:HIS:CD2	2.53	0.43
16:UM:332:SER:OG	16:UM:381:VAL:O	2.33	0.43
21:UR:346:TYR:CE2	21:UR:393:LEU:HD23	2.51	0.43
22:US:285:ILE:O	22:US:289:PHE:N	2.51	0.43
22:US:472:HIS:CD2	22:US:474:HIS:H	2.35	0.43
25:UV:557:THR:OG1	25:UV:560:ASN:OD1	2.36	0.43
25:UV:699:GLU:HA	25:UV:702:LYS:HB2	2.00	0.43
36:CM:230:TRP:O	36:CM:235:SER:OG	2.33	0.43
38:JC:205:GLU:HG2	38:JC:214:ARG:HD3	2.00	0.43
51:DG:185:GLN:HE22	66:D3:271:A:H61	1.66	0.43
52:DH:40:PRO:HG2	52:DH:41:LEU:HD12	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:DL:88:ARG:HE	55:DL:88:ARG:HB3	1.69	0.43
67:D4:165:G:H2'	67:D4:166:G:H8	1.83	0.43
4:UA:119:LEU:HD23	4:UA:142:HIS:HD2	1.83	0.43
12:UI:413:GLU:HB3	12:UI:416:ILE:HG12	2.00	0.43
13:UJ:1586:LEU:HD23	13:UJ:1590:ILE:HG13	1.99	0.43
16:UM:189:HIS:CD2	16:UM:215:GLY:HA3	2.53	0.43
18:UO:229:CYS:HB2	18:UO:258:LEU:HD12	1.99	0.43
23:UT:582:LEU:HD23	23:UT:657:LEU:HD13	2.00	0.43
23:UT:914:LYS:HD3	23:UT:914:LYS:HA	1.77	0.43
23:UT:1605:THR:HB	23:UT:1608:GLU:HB2	2.00	0.43
25:UV:671:THR:HG22	25:UV:677:ILE:HD11	1.99	0.43
25:UV:1081:ASN:H	25:UV:1084:THR:HG1	1.65	0.43
27:UZ:244:VAL:HG22	27:UZ:252:LEU:HB2	2.01	0.43
31:CH:334:GLU:HB3	31:CH:352:PRO:HD3	2.00	0.43
37:CN:39:ALA:HB1	37:CN:53:LEU:HD11	1.99	0.43
39:JG:180:LEU:HD23	39:JG:180:LEU:HA	1.84	0.43
47:JP:221:ASN:OD1	47:JP:221:ASN:N	2.51	0.43
47:JP:296:ARG:HE	47:JP:296:ARG:HB2	1.39	0.43
65:D2:117:G:H2'	65:D2:118:A:C8	2.53	0.43
66:D3:214:G:N2	66:D3:251:A:H62	2.15	0.43
3:JA:13:LEU:HD12	3:JA:216:VAL:HG21	2.01	0.43
3:JA:563:LYS:H	3:JA:587:GLN:HE22	1.66	0.43
4:UA:418:ARG:NH1	66:D3:1634:C:OP1	2.37	0.43
6:UC:500:ARG:HD3	6:UC:500:ARG:HA	1.78	0.43
11:UH:565:GLU:OE1	11:UH:565:GLU:N	2.48	0.43
16:UM:610:LEU:HD23	16:UM:611:LYS:HG3	2.00	0.43
20:UQ:147:SER:OG	20:UQ:148:GLU:OE2	2.37	0.43
22:US:428:THR:HG23	22:US:431:GLN:H	1.83	0.43
23:UT:1737:ASN:ND2	66:D3:803:A:N3	2.65	0.43
25:UV:441:GLN:O	25:UV:455:SER:HA	2.18	0.43
25:UV:1075:LEU:HD11	25:UV:1080:LEU:HD13	1.98	0.43
26:UX:103:MET:HE3	26:UX:127:ARG:HH21	1.83	0.43
26:UX:112:LYS:NZ	45:JN:303:GLU:O	2.51	0.43
29:CE:153:LYS:HD3	29:CE:153:LYS:HA	1.70	0.43
30:CF:42:LYS:NZ	67:D4:327:G:O6	2.44	0.43
35:CL:866:ARG:HH11	61:DX:59:ILE:HD11	1.84	0.43
37:CN:46:ASN:HD22	37:CN:49:GLU:HB2	1.84	0.43
39:JF:116:THR:HG22	39:JF:120:ILE:H	1.83	0.43
57:DO:81:VAL:HG23	57:DO:115:ILE:HA	2.01	0.43
60:DW:44:HIS:HD2	60:DW:101:TYR:CZ	2.37	0.43
65:D2:208:A:H2'	65:D2:209:G:H8	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:D3:326:G:H2'	66:D3:327:U:H6	1.84	0.43
66:D3:884:A:H2'	66:D3:885:G:C8	2.54	0.43
66:D3:1041:G:H2'	66:D3:1042:G:C8	2.53	0.43
66:D3:1130:G:H21	66:D3:1138:A:H62	1.66	0.43
4:UA:151:SER:HB3	4:UA:164:THR:HB	2.01	0.43
7:UD:476:LYS:HG3	7:UD:491:CYS:HB3	2.00	0.43
10:UG:88:GLN:HE22	10:UG:402:ILE:H	1.67	0.43
10:UG:410:ASN:O	47:JP:27:ASN:ND2	2.49	0.43
11:UH:610:PHE:O	11:UH:614:ILE:HG12	2.19	0.43
15:UL:123:ALA:HB3	15:UL:141:LYS:HD2	2.01	0.43
15:UL:132:THR:OG1	15:UL:133:GLY:N	2.51	0.43
15:UL:596:ASN:OD1	15:UL:596:ASN:N	2.52	0.43
16:UM:39:GLU:HA	16:UM:56:ILE:O	2.18	0.43
19:UP:205:TRP:O	19:UP:208:ARG:NH2	2.51	0.43
20:UQ:18:GLY:HA2	20:UQ:388:PRO:HD2	2.00	0.43
20:UQ:561:LEU:HD12	20:UQ:562:PRO:HD2	2.00	0.43
21:UR:304:LEU:HD23	21:UR:371:VAL:HG21	2.00	0.43
22:US:452:ASP:HB3	22:US:455:LEU:HB2	2.00	0.43
23:UT:538:LEU:HD22	23:UT:571:LEU:HD22	2.00	0.43
23:UT:850:LEU:O	23:UT:854:LEU:HG	2.19	0.43
23:UT:1055:ARG:O	23:UT:1059:LEU:HG	2.18	0.43
25:UV:412:LEU:HD12	25:UV:421:LEU:HD23	1.99	0.43
25:UV:592:PHE:HD2	25:UV:596:LYS:HB2	1.84	0.43
31:CH:335:ARG:HA	31:CH:349:TRP:O	2.19	0.43
35:CL:275:LEU:HD23	35:CL:275:LEU:HA	1.82	0.43
35:CL:631:ILE:HD11	36:CM:283:ILE:HG22	2.00	0.43
35:CL:1157:LYS:HB2	35:CL:1157:LYS:HE3	1.88	0.43
47:JP:445:ARG:HE	47:JP:451:MET:HB3	1.83	0.43
54:DJ:107:ARG:HA	54:DJ:107:ARG:HD2	1.80	0.43
60:DW:93:LEU:HD23	60:DW:93:LEU:HA	1.86	0.43
65:D2:123:C:H3'	65:D2:124:A:H8	1.84	0.43
66:D3:1689:A:C5	66:D3:1713:G:N2	2.86	0.43
2:DA:43:VAL:HG21	2:DA:68:VAL:HG11	2.00	0.43
2:DA:78:ASP:OD1	2:DA:78:ASP:N	2.43	0.43
3:JA:536:LYS:HA	3:JA:536:LYS:HD2	1.87	0.43
5:UB:573:LEU:HD23	5:UB:593:LEU:HD21	1.99	0.43
5:UB:743:GLN:O	5:UB:747:GLU:HG3	2.19	0.43
7:UD:74:GLY:HA2	7:UD:99:ILE:HG12	2.01	0.43
7:UD:199:ASP:HA	7:UD:215:ALA:O	2.19	0.43
8:UE:367:ASP:O	8:UE:528:SER:OG	2.33	0.43
9:UF:144:VAL:HG11	9:UF:178:VAL:HG11	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:UF:206:ILE:HD11	44:JM:52:PHE:HZ	1.82	0.43
13:UJ:1497:SER:OG	13:UJ:1539:MET:SD	2.65	0.43
14:UK:77:LEU:HD23	35:CL:1074:GLN:HE22	1.83	0.43
14:UK:156:SER:HB2	65:D2:205:C:O2'	2.19	0.43
16:UM:246:CYS:HA	16:UM:259:TYR:O	2.19	0.43
19:UP:207:ASN:OD1	19:UP:213:LYS:NZ	2.30	0.43
20:UQ:40:ASP:O	20:UQ:42:ARG:N	2.48	0.43
23:UT:1228:LEU:HD12	23:UT:1271:LEU:HG	1.99	0.43
23:UT:1328:PHE:O	23:UT:1332:ILE:HG12	2.18	0.43
23:UT:1592:PRO:O	23:UT:1595:SER:C	2.57	0.43
23:UT:1777:LEU:HB3	23:UT:1864:LEU:HG	2.00	0.43
23:UT:2000:PHE:HA	23:UT:2003:LEU:HD12	2.01	0.43
25:UV:349:LEU:HD21	25:UV:395:ILE:HD13	2.00	0.43
25:UV:439:HIS:ND1	25:UV:460:GLU:O	2.51	0.43
35:CL:844:PRO:HB2	35:CL:855:GLN:HE21	1.83	0.43
36:CM:245:LEU:HD12	36:CM:275:VAL:HG12	2.01	0.43
38:JC:49:LEU:HG	38:JC:356:LEU:HD11	2.01	0.43
38:JC:199:THR:HG22	38:JC:201:THR:H	1.83	0.43
53:DI:86:SER:OG	53:DI:87:ASN:N	2.51	0.43
55:DL:71:LEU:HD12	55:DL:88:ARG:HD2	2.01	0.43
65:D2:407:A:C6	65:D2:450:G:N1	2.87	0.43
66:D3:305:C:H2'	66:D3:306:U:C6	2.54	0.43
67:D4:202:G:H2'	67:D4:203:U:C6	2.54	0.43
4:UA:846:TYR:HE1	24:UU:909:LEU:HB3	1.84	0.43
1:CB:163:PHE:CG	1:CB:266:GLY:HA3	2.53	0.43
8:UE:176:GLU:HG2	8:UE:177:GLU:HG3	2.01	0.43
13:UJ:215:CYS:SG	20:UQ:875:MET:HB2	2.59	0.43
13:UJ:1453:VAL:O	13:UJ:1457:LEU:HG	2.19	0.43
13:UJ:1510:PHE:O	13:UJ:1514:SER:HB3	2.18	0.43
15:UL:118:ASN:OD1	15:UL:118:ASN:N	2.48	0.43
22:US:395:ILE:O	22:US:399:ILE:HG12	2.19	0.43
23:UT:947:ILE:HA	23:UT:950:ILE:HG22	2.01	0.43
23:UT:1180:LYS:HA	23:UT:1180:LYS:HD3	1.83	0.43
23:UT:1309:ASN:HA	23:UT:1312:SER:HB2	2.00	0.43
24:UU:611:THR:HB	24:UU:621:ASP:HB3	2.01	0.43
29:CE:309:LEU:HG	29:CE:371:LEU:HD13	2.00	0.43
31:CH:437:ARG:HB3	31:CH:438:ILE:H	1.66	0.43
35:CL:92:ARG:HG3	35:CL:221:LEU:HD22	2.00	0.43
35:CL:1157:LYS:NZ	67:D4:13:C:OP2	2.35	0.43
47:JP:230:ASN:HB2	47:JP:274:ALA:HB2	2.00	0.43
49:DE:127:LYS:HE3	49:DE:127:LYS:HB2	1.90	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:DL:125:VAL:HG12	55:DL:139:VAL:HG12	2.01	0.43
66:D3:415:C:N4	66:D3:419:G:O6	2.51	0.43
66:D3:1440:C:H2'	66:D3:1441:C:C6	2.53	0.43
66:D3:1748:G:H2'	66:D3:1749:A:C8	2.53	0.43
2:DA:128:LYS:HE2	2:DA:128:LYS:HB3	1.83	0.43
6:UC:433:ARG:H	6:UC:435:LYS:HZ2	1.65	0.43
7:UD:130:THR:HG22	7:UD:530:ARG:HH22	1.84	0.43
13:UJ:562:THR:HG23	13:UJ:563:LEU:HD12	1.99	0.43
13:UJ:623:LEU:HD23	13:UJ:623:LEU:HA	1.90	0.43
14:UK:137:VAL:HG12	14:UK:138:ASP:H	1.84	0.43
15:UL:534:ILE:HD12	15:UL:548:ILE:HG23	2.01	0.43
16:UM:19:SER:OG	16:UM:20:SER:N	2.52	0.43
16:UM:357:THR:OG1	16:UM:358:ASN:N	2.51	0.43
16:UM:494:ILE:HA	16:UM:510:SER:HA	2.01	0.43
20:UQ:112:ASN:ND2	20:UQ:113:ASN:OD1	2.52	0.43
20:UQ:279:VAL:HG13	20:UQ:294:LYS:HG2	2.00	0.43
21:UR:158:VAL:O	21:UR:162:ASN:ND2	2.38	0.43
23:UT:67:ALA:O	23:UT:71:GLU:HB2	2.19	0.43
23:UT:536:ASN:HA	23:UT:539:LYS:HD3	2.00	0.43
23:UT:707:PRO:HD3	23:UT:774:ILE:HD11	2.01	0.43
23:UT:954:PRO:HB3	23:UT:1011:LEU:HB2	2.00	0.43
23:UT:1537:LYS:HD2	23:UT:1539:ASN:HB3	2.01	0.43
23:UT:1940:LYS:HD3	23:UT:1940:LYS:HA	1.80	0.43
24:UU:318:SER:OG	24:UU:320:LYS:NZ	2.52	0.43
25:UV:216:LYS:HA	25:UV:216:LYS:HD3	1.79	0.43
25:UV:308:LEU:HD21	25:UV:337:LEU:HB2	2.00	0.43
25:UV:383:GLY:HA3	25:UV:585:MET:HG2	2.00	0.43
25:UV:899:LEU:HD23	25:UV:902:ILE:HD11	2.00	0.43
28:CD:293:CYS:HA	28:CD:309:GLU:HG2	2.00	0.43
34:CK:330:VAL:HG21	35:CL:932:LEU:HD12	2.00	0.43
38:JC:266:LYS:HD3	38:JC:266:LYS:HA	1.85	0.43
49:DE:238:LEU:HD13	49:DE:238:LEU:HA	1.86	0.43
52:DH:97:ARG:HA	52:DH:97:ARG:HD2	1.94	0.43
65:D2:212:U:H2'	65:D2:213:G:C8	2.54	0.43
65:D2:436:G:H2'	65:D2:437:G:H8	1.82	0.43
65:D2:456:U:H2'	65:D2:457:G:C8	2.54	0.43
66:D3:244:A:N6	66:D3:250:C:N4	2.64	0.43
66:D3:1717:G:H2'	66:D3:1718:G:C8	2.54	0.43
67:D4:74:A:H2'	67:D4:75:C:C6	2.54	0.43
2:DA:185:THR:O	2:DA:189:ILE:HG12	2.19	0.42
3:JA:78:LYS:HA	3:JA:81:ILE:HG22	1.99	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:JA:217:LYS:HE3	3:JA:217:LYS:HB3	1.84	0.42
4:UA:27:LYS:CD	4:UA:43:ILE:HD12	2.49	0.42
4:UA:458:TRP:HA	4:UA:465:LEU:HA	2.00	0.42
5:UB:315:ASN:O	5:UB:513:GLN:NE2	2.52	0.42
9:UF:128:LYS:HE3	9:UF:128:LYS:HB2	1.85	0.42
13:UJ:1531:ILE:HD12	13:UJ:1531:ILE:HA	1.84	0.42
13:UJ:1710:ALA:O	13:UJ:1714:ILE:HG12	2.19	0.42
18:UO:133:HIS:HB2	18:UO:139:ILE:HG23	2.01	0.42
20:UQ:120:ASN:N	20:UQ:120:ASN:OD1	2.52	0.42
22:US:191:ILE:HD12	22:US:191:ILE:HA	1.85	0.42
23:UT:1930:SER:O	23:UT:1934:PHE:HB2	2.19	0.42
27:UZ:74:LEU:HB3	27:UZ:100:ILE:HD13	2.00	0.42
29:CE:16:LYS:HB2	29:CE:45:ALA:HB2	2.00	0.42
29:CE:208:ILE:HG13	29:CE:226:ILE:HG21	2.01	0.42
30:CF:44:LEU:HD13	30:CF:70:LEU:HB2	2.01	0.42
33:CJ:169:ASN:HD22	33:CJ:255:GLU:HG3	1.84	0.42
35:CL:137:LEU:HD12	35:CL:166:ARG:HB2	2.01	0.42
35:CL:625:TRP:NE1	36:CM:281:GLU:OE1	2.40	0.42
35:CL:1102:LEU:HD22	35:CL:1106:GLU:HG3	2.00	0.42
38:JC:297:ALA:HB3	38:JC:311:MET:HG3	2.01	0.42
39:JF:92:THR:O	39:JF:96:LEU:HG	2.19	0.42
40:JH:271:THR:O	40:JH:275:SER:CB	2.67	0.42
52:DH:23:ALA:O	52:DH:27:LEU:HG	2.18	0.42
66:D3:793:A:N6	66:D3:798:C:H41	2.16	0.42
7:UD:287:THR:HG22	7:UD:296:PHE:HB2	2.01	0.42
13:UJ:314:GLN:HG2	13:UJ:353:ARG:HB3	2.01	0.42
13:UJ:1423:LEU:HA	13:UJ:1426:ILE:HG22	2.01	0.42
17:UN:894:LEU:O	47:JP:230:ASN:ND2	2.52	0.42
23:UT:790:GLU:HG3	23:UT:841:ILE:HD12	2.02	0.42
23:UT:1981:TYR:OH	23:UT:1985:ARG:NH2	2.52	0.42
24:UU:909:LEU:HD23	24:UU:909:LEU:HA	1.84	0.42
27:UZ:201:VAL:HG11	27:UZ:216:ILE:HD11	2.00	0.42
31:CH:456:ASP:HB2	31:CH:459:LEU:HB2	2.01	0.42
36:CM:21:ILE:HD13	36:CM:21:ILE:HA	1.92	0.42
37:CN:63:ASN:H	37:CN:66:HIS:HB2	1.84	0.42
39:JF:68:LEU:HD13	39:JF:73:HIS:HE1	1.83	0.42
42:JJ:205:ILE:O	42:JJ:212:THR:OG1	2.37	0.42
66:D3:142:G:N1	66:D3:174:U:O2	2.52	0.42
2:DA:61:LEU:HD23	2:DA:61:LEU:HA	1.76	0.42
3:JA:206:ASN:OD1	3:JA:206:ASN:N	2.46	0.42
3:JA:845:TYR:CD2	3:JA:855:ILE:HG13	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:UA:201:HIS:NE2	24:UU:765:GLU:OE1	2.52	0.42
1:CB:297:ARG:HH11	1:CB:323:SER:HB3	1.84	0.42
8:UE:461:ASP:HB3	8:UE:464:VAL:HG23	2.01	0.42
13:UJ:152:LEU:HD23	13:UJ:152:LEU:HA	1.88	0.42
13:UJ:377:ARG:HE	13:UJ:414:LEU:HD22	1.83	0.42
16:UM:224:ASP:HB2	16:UM:234:LEU:HD21	2.01	0.42
20:UQ:141:LEU:HA	20:UQ:155:THR:HG22	2.01	0.42
20:UQ:484:VAL:HG23	20:UQ:485:ARG:H	1.85	0.42
22:US:220:LEU:HD21	22:US:277:ILE:HG13	2.01	0.42
23:UT:29:GLU:HB2	23:UT:32:ARG:HD2	2.02	0.42
23:UT:867:LYS:HG3	23:UT:892:LEU:HD22	2.01	0.42
25:UV:116:LEU:HD23	25:UV:116:LEU:HA	1.84	0.42
25:UV:310:PRO:HB3	25:UV:330:PRO:HB3	2.01	0.42
25:UV:326:LEU:HD12	25:UV:326:LEU:HA	1.93	0.42
25:UV:842:ILE:O	25:UV:849:GLY:HA2	2.18	0.42
27:UZ:51:ASP:OD1	27:UZ:51:ASP:N	2.52	0.42
31:CH:195:GLN:HE21	31:CH:213:TYR:HD2	1.65	0.42
34:CK:538:LYS:HD3	66:D3:1628:U:H3	1.84	0.42
35:CL:302:GLU:HB2	35:CL:790:ARG:HG2	2.00	0.42
37:CN:180:LEU:HD12	37:CN:180:LEU:HA	1.89	0.42
38:JC:198:GLY:HA3	38:JC:234:THR:HG21	2.01	0.42
46:JO:93:ILE:HD12	46:JO:93:ILE:HA	1.89	0.42
51:DG:159:ARG:NH1	66:D3:77:U:O4'	2.52	0.42
65:D2:133:U:H2'	65:D2:134:A:C8	2.53	0.42
66:D3:26:A:H2'	66:D3:27:U:C6	2.54	0.42
66:D3:542:A:HO2'	66:D3:543:C:C5'	2.32	0.42
66:D3:780:A:OP1	66:D3:781:U:O2'	2.32	0.42
66:D3:1654:G:H2'	66:D3:1655:A:H8	1.84	0.42
3:JA:23:ARG:NH1	3:JA:139:ILE:O	2.52	0.42
10:UG:74:LEU:HD13	10:UG:404:PRO:HG2	2.02	0.42
11:UH:231:PHE:HA	11:UH:238:ASP:HA	2.01	0.42
13:UJ:88:LYS:HE2	13:UJ:88:LYS:HB3	1.81	0.42
13:UJ:104:LEU:HD23	13:UJ:104:LEU:HA	1.90	0.42
13:UJ:359:ASP:OD1	13:UJ:361:SER:OG	2.29	0.42
15:UL:88:HIS:HB2	15:UL:129:PHE:CZ	2.55	0.42
17:UN:307:ARG:HD3	66:D3:-6:A:C5	2.54	0.42
17:UN:313:PHE:HE2	17:UN:883:ILE:HG12	1.84	0.42
21:UR:389:SER:OG	21:UR:390:THR:N	2.53	0.42
23:UT:528:LYS:HE2	23:UT:528:LYS:HB3	1.85	0.42
23:UT:874:LEU:HD13	23:UT:874:LEU:HA	1.84	0.42
23:UT:884:TYR:HE2	23:UT:913:ILE:HG23	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:UT:1683:ARG:HA	23:UT:1683:ARG:HD2	1.88	0.42
25:UV:143:GLU:CA	25:UV:176:PHE:O	2.54	0.42
25:UV:254:LEU:HD11	25:UV:268:LEU:HD12	2.01	0.42
25:UV:441:GLN:NE2	25:UV:442:PHE:O	2.52	0.42
25:UV:462:PHE:HB2	25:UV:466:THR:HG21	2.01	0.42
29:CE:91:GLU:HB3	29:CE:94:LEU:HB2	2.02	0.42
37:CN:66:HIS:CE1	37:CN:161:THR:H	2.37	0.42
37:CN:267:LYS:HE3	37:CN:267:LYS:HB3	1.80	0.42
45:JN:292:LYS:N	66:D3:9:U:OP2	2.49	0.42
66:D3:338:C:H2'	66:D3:339:C:C6	2.55	0.42
66:D3:761:G:H2'	66:D3:762:A:C8	2.54	0.42
66:D3:886:U:H2'	66:D3:887:A:H8	1.84	0.42
5:UB:574:THR:HB	5:UB:593:LEU:HD12	2.01	0.42
7:UD:37:ARG:HH11	7:UD:758:ASN:HD21	1.65	0.42
8:UE:460:ARG:HA	8:UE:460:ARG:HD2	1.91	0.42
13:UJ:167:PHE:CE2	13:UJ:178:THR:HG21	2.55	0.42
13:UJ:241:ILE:O	13:UJ:245:LEU:HB2	2.20	0.42
13:UJ:741:LEU:HA	13:UJ:742:ASN:HA	1.61	0.42
13:UJ:743:SER:HB2	13:UJ:748:LEU:HD22	2.02	0.42
15:UL:62:LYS:O	15:UL:111:LYS:NZ	2.48	0.42
15:UL:392:THR:HG23	15:UL:409:ALA:HB1	2.02	0.42
15:UL:536:CYS:HB3	15:UL:549:SER:HB3	2.01	0.42
20:UQ:537:ASN:OD1	20:UQ:537:ASN:N	2.53	0.42
22:US:303:TYR:CZ	22:US:320:LEU:HD13	2.54	0.42
23:UT:689:TYR:CE2	23:UT:785:ILE:HG12	2.53	0.42
23:UT:1203:VAL:HG21	23:UT:1242:LYS:HB3	2.02	0.42
23:UT:1467:LYS:HE2	23:UT:1467:LYS:HB2	1.81	0.42
23:UT:1529:ARG:O	23:UT:1533:MET:HG3	2.18	0.42
24:UU:342:TYR:OH	24:UU:345:SER:OG	2.22	0.42
25:UV:122:LEU:HA	25:UV:125:GLU:HG3	2.01	0.42
25:UV:125:GLU:HA	25:UV:128:LEU:HG	2.01	0.42
32:CI:141:ASN:OD1	32:CI:141:ASN:N	2.52	0.42
35:CL:800:PHE:HB2	35:CL:1022:LEU:HD22	2.02	0.42
37:CN:17:PRO:HB3	37:CN:34:LEU:HD12	2.02	0.42
39:JF:80:MET:HB3	39:JF:82:ARG:HD3	2.01	0.42
46:JO:203:LEU:HD23	46:JO:203:LEU:HA	1.81	0.42
62:DY:131:ARG:HH22	66:D3:153:G:P	2.42	0.42
66:D3:244:A:N1	66:D3:250:C:C4	2.88	0.42
66:D3:467:G:C8	66:D3:467:G:OP2	2.72	0.42
66:D3:680:U:H3	66:D3:682:C:H41	1.68	0.42
66:D3:1115:U:H2'	66:D3:1116:A:H8	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:D4:165:G:H2'	67:D4:166:G:C8	2.54	0.42
1:CA:253:ILE:HD13	1:CA:253:ILE:HA	1.78	0.42
3:JA:91:MET:SD	3:JA:96:SER:OG	2.74	0.42
3:JA:805:ILE:O	3:JA:809:LYS:NZ	2.45	0.42
1:CB:248:ASP:OD1	1:CB:248:ASP:N	2.45	0.42
5:UB:712:THR:O	5:UB:713:HIS:ND1	2.53	0.42
5:UB:764:ARG:NH1	34:CK:353:PRO:HG2	2.35	0.42
8:UE:247:THR:HG21	8:UE:292:TYR:HA	2.02	0.42
15:UL:344:THR:O	15:UL:352:GLU:HB2	2.20	0.42
16:UM:355:LEU:HD23	16:UM:355:LEU:HA	1.87	0.42
21:UR:490:PHE:CE1	21:UR:512:ASP:HB3	2.54	0.42
23:UT:706:LEU:HD23	23:UT:706:LEU:HA	1.84	0.42
23:UT:1321:PHE:O	23:UT:1325:LEU:HG	2.20	0.42
23:UT:1387:ALA:O	23:UT:1391:ILE:HG12	2.19	0.42
23:UT:1863:LEU:HD12	23:UT:1863:LEU:HA	1.90	0.42
25:UV:516:SER:HA	25:UV:522:LYS:HD2	2.01	0.42
25:UV:1139:LEU:HD23	25:UV:1139:LEU:HA	1.87	0.42
29:CE:176:GLU:HA	29:CE:179:THR:HG22	2.01	0.42
31:CH:160:ILE:HA	31:CH:188:TYR:O	2.20	0.42
31:CH:301:ASP:O	31:CH:303:LYS:NZ	2.40	0.42
32:CI:63:LEU:HD23	32:CI:63:LEU:HA	1.85	0.42
33:CJ:78:ALA:O	34:CK:384:ARG:NH1	2.39	0.42
34:CK:452:SER:O	34:CK:452:SER:OG	2.28	0.42
35:CL:803:ASN:O	35:CL:1026:LYS:NZ	2.48	0.42
35:CL:939:TYR:CE1	35:CL:986:HIS:HD2	2.37	0.42
37:CN:82:SER:OG	37:CN:133:SER:O	2.28	0.42
37:CN:265:ARG:O	37:CN:269:GLU:HG3	2.20	0.42
39:JG:74:GLN:HG2	39:JG:84:ILE:HG12	2.01	0.42
39:JG:84:ILE:H	39:JG:84:ILE:HD12	1.84	0.42
51:DG:7:TYR:O	51:DG:11:GLY:N	2.53	0.42
51:DG:121:LEU:HD23	51:DG:121:LEU:HA	1.89	0.42
51:DG:139:ASN:ND2	66:D3:143:G:OP2	2.53	0.42
62:DY:41:ARG:HG2	62:DY:55:VAL:HG13	2.01	0.42
66:D3:48:G:O6	66:D3:432:G:N2	2.49	0.42
66:D3:326:G:H2'	66:D3:327:U:C6	2.55	0.42
3:JA:859:ILE:HD12	3:JA:888:ILE:HG22	2.02	0.42
4:UA:636:THR:OG1	4:UA:639:GLY:O	2.31	0.42
4:UA:713:ASP:N	4:UA:713:ASP:OD1	2.51	0.42
8:UE:254:GLU:HB3	8:UE:275:SER:HB2	2.01	0.42
9:UF:122:ASN:OD1	9:UF:122:ASN:N	2.52	0.42
16:UM:40:ILE:HB	16:UM:56:ILE:HG23	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:UM:226:ASN:CB	16:UM:230:LYS:O	2.67	0.42
19:UP:159:LYS:HA	19:UP:162:THR:HG22	2.02	0.42
21:UR:211:ILE:HD13	21:UR:211:ILE:HA	1.87	0.42
22:US:171:ALA:HA	22:US:273:GLN:HE22	1.85	0.42
23:UT:991:LEU:HA	23:UT:994:ILE:HG12	2.01	0.42
23:UT:1334:ASP:HA	23:UT:1335:GLY:HA3	1.64	0.42
25:UV:649:TRP:HH2	25:UV:681:ILE:HD11	1.85	0.42
25:UV:975:LEU:HB3	25:UV:1041:VAL:HG12	2.00	0.42
25:UV:1159:ASN:ND2	25:UV:1200:LEU:O	2.53	0.42
26:UX:159:GLY:O	26:UX:163:ARG:HG3	2.19	0.42
27:UZ:101:ILE:HG21	27:UZ:106:LEU:HD13	2.01	0.42
32:CI:71:ARG:NH2	33:CJ:61:SER:HB2	2.34	0.42
35:CL:105:ILE:HG13	35:CL:356:ALA:HB2	2.01	0.42
50:DF:77:TYR:HD1	50:DF:83:ARG:HG3	1.84	0.42
56:DN:91:LEU:HD23	56:DN:91:LEU:HA	1.92	0.42
67:D4:263:A:C6	67:D4:309:G:C2	3.07	0.42
3:JA:520:ARG:HA	3:JA:523:LEU:HB3	2.01	0.42
4:UA:180:LYS:O	4:UA:184:ALA:HB2	2.20	0.42
7:UD:52:SER:OG	7:UD:53:HIS:N	2.52	0.42
7:UD:353:GLU:HG3	7:UD:355:THR:HG22	2.01	0.42
8:UE:253:LEU:HA	8:UE:253:LEU:HD12	1.73	0.42
10:UG:121:ASN:HB2	10:UG:123:THR:HG22	2.01	0.42
15:UL:933:SER:O	15:UL:933:SER:OG	2.31	0.42
16:UM:250:LYS:HZ1	16:UM:253:ASP:HB3	1.85	0.42
20:UQ:226:SER:HA	20:UQ:237:LEU:O	2.19	0.42
20:UQ:598:LYS:HB3	20:UQ:638:PHE:CE2	2.55	0.42
20:UQ:768:TRP:CZ3	20:UQ:770:TYR:HA	2.54	0.42
21:UR:298:CYS:HA	21:UR:313:PHE:O	2.20	0.42
23:UT:395:GLU:HG2	23:UT:746:ILE:HG22	2.02	0.42
23:UT:459:LEU:HD22	23:UT:462:ARG:HH11	1.83	0.42
23:UT:1724:ASN:HA	23:UT:1729:ALA:HB3	2.01	0.42
24:UU:758:PHE:HE1	42:JJ:221:ARG:HA	1.85	0.42
25:UV:373:ARG:HD3	25:UV:373:ARG:HA	1.76	0.42
25:UV:459:ASP:OD1	25:UV:459:ASP:N	2.48	0.42
25:UV:702:LYS:HB3	25:UV:702:LYS:HE2	1.79	0.42
29:CE:33:ASP:OD1	29:CE:37:LYS:NZ	2.49	0.42
29:CE:247:ILE:HG22	29:CE:251:ASP:HB2	2.02	0.42
31:CH:257:ASP:OD1	31:CH:257:ASP:N	2.36	0.42
31:CH:331:LEU:HD23	31:CH:331:LEU:HA	1.77	0.42
45:JN:252:LYS:O	45:JN:256:GLU:HG2	2.19	0.42
50:DF:142:PRO:HG3	50:DF:170:GLN:HG2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:DH:99:LEU:HD13	52:DH:116:ARG:HB3	2.02	0.42
53:DI:20:GLN:NE2	53:DI:22:ARG:O	2.41	0.42
55:DL:46:LYS:HA	55:DL:49:ILE:HG12	2.02	0.42
55:DL:132:SER:HB2	55:DL:135:VAL:HG12	2.01	0.42
61:DX:132:LEU:HD23	61:DX:132:LEU:HA	1.81	0.42
62:DY:20:ARG:NH2	62:DY:22:GLN:OE1	2.49	0.42
62:DY:110:GLN:HB3	62:DY:114:ARG:HH12	1.84	0.42
62:DY:112:LYS:NZ	66:D3:55:A:OP1	2.33	0.42
66:D3:230:C:N3	66:D3:236:A:N6	2.67	0.42
66:D3:1777:G:H2'	66:D3:1778:G:C8	2.55	0.42
2:DA:144:ARG:HB3	2:DA:208:GLN:HB3	2.02	0.42
3:JA:138:THR:HA	3:JA:141:THR:HG22	2.01	0.42
3:JB:119:TYR:N	3:JB:141:THR:O	2.48	0.42
9:UF:363:VAL:O	9:UF:367:ILE:HG13	2.20	0.42
13:UJ:1528:VAL:HA	13:UJ:1531:ILE:HG22	2.02	0.42
15:UL:102:VAL:HG12	15:UL:118:ASN:HB3	2.00	0.42
15:UL:332:ILE:HD12	15:UL:353:LEU:HD12	2.01	0.42
16:UM:42:ILE:O	16:UM:53:LEU:N	2.52	0.42
18:UO:128:HIS:CD2	18:UO:172:ARG:HE	2.38	0.42
20:UQ:208:LEU:HD23	20:UQ:230:LEU:HD21	2.01	0.42
20:UQ:469:ASN:HD22	20:UQ:539:THR:HG22	1.84	0.42
21:UR:241:ALA:HA	21:UR:282:ASN:HD22	1.84	0.42
23:UT:978:PHE:CZ	23:UT:1027:ILE:HD11	2.54	0.42
23:UT:1173:LEU:HD23	23:UT:1173:LEU:HA	1.90	0.42
23:UT:1265:TYR:CZ	23:UT:1298:LEU:HD21	2.55	0.42
23:UT:1707:HIS:CE1	23:UT:1805:ASP:HB2	2.55	0.42
23:UT:1930:SER:HA	23:UT:1934:PHE:HD2	1.83	0.42
23:UT:1988:PRO:HA	23:UT:1991:ASN:HB2	2.02	0.42
28:CD:230:ASN:N	28:CD:233:SER:OG	2.52	0.42
28:CD:237:LEU:O	28:CD:240:LEU:C	2.58	0.42
35:CL:844:PRO:HA	35:CL:856:THR:O	2.20	0.42
38:JC:255:TYR:HA	38:JC:262:PRO:HA	2.01	0.42
46:JO:104:LEU:HD23	46:JO:104:LEU:HA	1.89	0.42
49:DE:99:PHE:HD2	49:DE:111:VAL:HB	1.85	0.42
52:DH:4:PRO:HA	52:DH:7:LYS:HE2	2.01	0.42
52:DH:51:VAL:HG23	52:DH:53:GLY:N	2.35	0.42
54:DJ:11:THR:HG23	66:D3:472:U:H5''	2.02	0.42
56:DN:112:LYS:NZ	66:D3:975:C:OP1	2.53	0.42
65:D2:411:A:H2'	65:D2:412:A:C8	2.55	0.42
65:D2:481:U:HO2'	65:D2:482:A:P	2.43	0.42
66:D3:114:C:C2	66:D3:247:A:C6	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:D3:319:U:H4'	66:D3:323:A:C5	2.55	0.42
67:D4:306:G:H2'	67:D4:307:G:H8	1.85	0.42
3:JA:16:ASN:HA	3:JA:19:GLN:HG2	2.01	0.42
3:JA:626:GLU:O	3:JA:630:LEU:HG	2.20	0.42
3:JA:658:ARG:HH12	3:JA:766:LEU:N	2.13	0.42
4:UA:207:TYR:HD1	4:UA:217:VAL:HG22	1.85	0.42
4:UA:258:ALA:HB1	4:UA:261:ALA:HB3	2.02	0.42
4:UA:561:SER:OG	4:UA:577:SER:OG	2.25	0.42
1:CB:253:ILE:HG13	1:CB:269:ILE:HD12	2.01	0.42
3:JB:499:ASN:O	3:JB:503:ALA:N	2.53	0.42
8:UE:516:ILE:HD12	8:UE:517:PRO:HD2	2.01	0.42
13:UJ:570:ALA:HB1	13:UJ:582:VAL:HG11	2.01	0.42
14:UK:89:GLU:H	14:UK:89:GLU:HG3	1.64	0.42
15:UL:282:GLU:HG2	15:UL:331:THR:HG22	2.01	0.42
15:UL:555:VAL:HB	15:UL:569:LEU:HB2	2.02	0.42
15:UL:821:LEU:HD12	15:UL:859:PHE:HD2	1.85	0.42
18:UO:27:TRP:HE1	18:UO:268:MET:HE2	1.84	0.42
20:UQ:311:TYR:HA	20:UQ:324:TRP:O	2.19	0.42
20:UQ:663:LYS:HD3	20:UQ:713:CYS:SG	2.60	0.42
21:UR:458:ILE:HG13	21:UR:484:VAL:HG22	2.01	0.42
23:UT:212:VAL:HG21	23:UT:258:LEU:HD13	2.02	0.42
23:UT:462:ARG:O	23:UT:466:VAL:HG23	2.20	0.42
26:UX:173:MET:HB2	26:UX:182:ILE:HG22	2.01	0.42
31:CH:354:GLU:OE1	62:DY:8:ARG:NH1	2.53	0.42
32:CI:108:ARG:HB2	32:CI:113:VAL:HG11	2.01	0.42
34:CK:511:ASN:ND2	66:D3:1638:G:O2'	2.53	0.42
36:CM:309:GLY:O	36:CM:353:THR:HA	2.19	0.42
37:CN:105:SER:O	37:CN:224:ASN:ND2	2.53	0.42
56:DN:142:GLU:HG3	56:DN:143:SER:H	1.85	0.42
66:D3:23:G:C2	66:D3:603:U:O2	2.72	0.42
66:D3:322:G:O6	66:D3:344:A:N6	2.52	0.42
66:D3:1694:A:O2'	66:D3:1695:G:H5'	2.20	0.42
1:CA:144:TRP:HE1	1:CA:149:SER:HG	1.68	0.41
2:DA:61:LEU:HD13	2:DA:96:LEU:HD21	2.01	0.41
2:DA:130:SER:HB3	2:DA:180:THR:HG22	2.02	0.41
3:JA:841:ARG:HH12	3:JA:857:ASP:HB2	1.85	0.41
7:UD:248:PRO:HD2	7:UD:292:ASN:HD21	1.85	0.41
7:UD:609:SER:O	7:UD:609:SER:OG	2.36	0.41
8:UE:179:LYS:HE3	8:UE:179:LYS:HB2	1.85	0.41
9:UF:34:LYS:O	9:UF:37:THR:OG1	2.33	0.41
9:UF:85:ASP:OD1	9:UF:85:ASP:N	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:UL:912:TRP:CD2	16:UM:779:VAL:HG21	2.55	0.41
18:UO:182:HIS:CE1	18:UO:199:ARG:HH11	2.38	0.41
20:UQ:379:LEU:HD23	20:UQ:379:LEU:HA	1.81	0.41
23:UT:167:VAL:HG22	23:UT:204:PRO:HD3	2.02	0.41
23:UT:211:PHE:O	23:UT:215:VAL:HG23	2.20	0.41
23:UT:228:LEU:O	23:UT:232:LEU:HG	2.19	0.41
23:UT:559:ASN:HA	23:UT:562:VAL:HG12	2.01	0.41
23:UT:1112:TRP:CD1	23:UT:1118:LEU:HD13	2.55	0.41
23:UT:1273:LYS:HE2	23:UT:1349:PHE:HB2	2.01	0.41
23:UT:1511:ILE:HD13	23:UT:1514:LEU:HD21	2.00	0.41
24:UU:110:LEU:HD12	24:UU:110:LEU:HA	1.79	0.41
24:UU:125:GLY:HA3	29:CE:433:THR:HB	2.02	0.41
33:CJ:53:GLN:NE2	45:JN:219:SER:OG	2.42	0.41
35:CL:271:ILE:HD13	35:CL:271:ILE:HA	1.93	0.41
36:CM:280:LEU:HD23	36:CM:280:LEU:HA	1.90	0.41
49:DE:181:VAL:HG12	49:DE:227:VAL:HG22	2.02	0.41
57:DO:125:SER:OG	57:DO:126:THR:N	2.52	0.41
65:D2:263:C:H2'	65:D2:264:C:C6	2.55	0.41
66:D3:175:G:N3	66:D3:266:A:C6	2.88	0.41
66:D3:752:A:H2	66:D3:797:G:H22	1.66	0.41
3:JA:89:ASN:HD22	35:CL:91:ARG:HB3	1.86	0.41
4:UA:660:SER:HA	4:UA:672:THR:HA	2.02	0.41
7:UD:479:LYS:HD3	7:UD:479:LYS:HA	1.80	0.41
11:UH:340:TYR:O	11:UH:358:VAL:O	2.38	0.41
13:UJ:157:LEU:HA	13:UJ:158:PRO:HD3	1.91	0.41
13:UJ:531:ILE:HD11	13:UJ:566:CYS:HB3	2.01	0.41
15:UL:655:ALA:HB2	15:UL:684:TRP:CH2	2.55	0.41
20:UQ:895:LEU:HD23	20:UQ:895:LEU:HA	1.83	0.41
23:UT:653:LYS:HA	23:UT:653:LYS:HD2	1.83	0.41
23:UT:1120:GLN:O	23:UT:1124:TYR:HB2	2.20	0.41
25:UV:489:LYS:HE2	25:UV:489:LYS:HB3	1.95	0.41
25:UV:931:ASP:OD1	25:UV:931:ASP:N	2.52	0.41
27:UZ:243:PHE:HD1	27:UZ:253:PRO:HA	1.85	0.41
35:CL:270:ALA:HA	35:CL:792:VAL:HA	2.02	0.41
35:CL:281:PRO:HG2	35:CL:286:THR:HG21	2.02	0.41
35:CL:548:ASN:O	35:CL:552:LEU:HG	2.20	0.41
36:CM:131:GLU:OE2	36:CM:156:ARG:NH2	2.53	0.41
39:JF:169:ASP:OD1	39:JF:169:ASP:N	2.50	0.41
39:JG:99:LEU:HD23	39:JG:99:LEU:HA	1.94	0.41
47:JP:48:THR:HG21	47:JP:410:ILE:HG23	2.02	0.41
52:DH:47:ARG:NH1	66:D3:642:G:O3'	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:DO:36:LYS:NZ	57:DO:37:GLU:OE2	2.53	0.41
62:DY:34:ASN:ND2	62:DY:62:THR:OG1	2.53	0.41
65:D2:197:G:N2	65:D2:200:A:OP2	2.35	0.41
65:D2:407:A:N1	65:D2:450:G:C2	2.88	0.41
3:JA:763:LEU:HD12	3:JA:764:ASN:H	1.85	0.41
4:UA:279:PHE:HE2	4:UA:285:ARG:HG3	1.85	0.41
4:UA:491:ALA:HB1	4:UA:518:VAL:HG21	2.02	0.41
4:UA:564:PHE:CZ	4:UA:678:GLU:HG2	2.56	0.41
7:UD:626:TRP:CD1	7:UD:734:PHE:HZ	2.38	0.41
8:UE:463:ARG:HG3	8:UE:466:ARG:HH21	1.85	0.41
13:UJ:1591:THR:O	13:UJ:1595:THR:HG23	2.20	0.41
13:UJ:1619:ARG:O	13:UJ:1623:ILE:HG12	2.19	0.41
22:US:376:VAL:HG13	22:US:405:LEU:HD13	2.01	0.41
22:US:395:ILE:HA	22:US:398:VAL:HG12	2.03	0.41
23:UT:335:LYS:HA	23:UT:335:LYS:HD3	1.93	0.41
23:UT:1204:SER:O	23:UT:1208:MET:HG2	2.20	0.41
23:UT:1326:SER:HA	23:UT:1329:LYS:HE2	2.02	0.41
23:UT:1511:ILE:HA	23:UT:1514:LEU:HG	2.02	0.41
23:UT:1606:ILE:H	23:UT:1606:ILE:HD12	1.85	0.41
23:UT:1641:GLN:HA	23:UT:1644:ARG:HB3	2.01	0.41
23:UT:1646:LYS:O	23:UT:1651:ARG:NH2	2.39	0.41
33:CJ:139:LEU:HB2	33:CJ:157:PHE:CE2	2.54	0.41
36:CM:105:TYR:HE1	36:CM:296:LEU:HA	1.85	0.41
47:JP:303:ASP:OD2	47:JP:339:SER:N	2.42	0.41
47:JP:315:PRO:HG2	47:JP:360:SER:HB2	2.02	0.41
50:DF:81:ARG:NH2	66:D3:1615:C:OP1	2.37	0.41
53:DI:123:LYS:HE2	53:DI:123:LYS:HB2	1.94	0.41
66:D3:1115:U:H2'	66:D3:1116:A:C8	2.56	0.41
5:UB:546:LEU:HA	5:UB:549:ILE:HG22	2.02	0.41
7:UD:585:ILE:HA	7:UD:590:LYS:O	2.20	0.41
8:UE:126:PHE:HE2	8:UE:165:VAL:HG11	1.84	0.41
10:UG:267:LEU:HD23	10:UG:267:LEU:HA	1.90	0.41
13:UJ:108:LYS:HB2	13:UJ:114:THR:HG21	2.02	0.41
13:UJ:1590:ILE:HG22	13:UJ:1593:TYR:HB2	2.02	0.41
14:UK:88:ASP:OD1	14:UK:88:ASP:N	2.52	0.41
16:UM:42:ILE:HG21	16:UM:90:LEU:HD21	2.02	0.41
18:UO:51:HIS:HB3	18:UO:53:HIS:CE1	2.55	0.41
20:UQ:658:GLU:O	20:UQ:675:ARG:N	2.53	0.41
22:US:188:PHE:HB2	22:US:191:ILE:HG22	2.02	0.41
22:US:388:LEU:HD13	22:US:465:GLU:HA	2.03	0.41
23:UT:30:PRO:O	23:UT:33:ASN:C	2.58	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:UU:321:GLU:O	24:UU:343:LEU:HB3	2.20	0.41
27:UZ:41:ASN:HA	27:UZ:195:ASN:O	2.20	0.41
27:UZ:142:ARG:NH2	66:D3:1513:G:H3'	2.32	0.41
31:CH:223:THR:OG1	31:CH:224:SER:N	2.52	0.41
37:CN:16:VAL:N	37:CN:37:MET:O	2.45	0.41
46:JO:47:LYS:O	46:JO:50:GLU:HB3	2.20	0.41
47:JP:200:LYS:HE2	47:JP:200:LYS:HB2	1.94	0.41
47:JP:360:SER:O	47:JP:360:SER:OG	2.23	0.41
53:DI:107:THR:HA	53:DI:110:ARG:HB3	2.02	0.41
65:D2:125:G:H2'	65:D2:126:A:H8	1.84	0.41
66:D3:46:A:H4'	66:D3:47:A:H5'	2.01	0.41
66:D3:647:G:N2	66:D3:687:G:H22	2.18	0.41
67:D4:137:U:H2'	67:D4:138:A:C8	2.56	0.41
1:CA:151:LEU:HD13	1:CA:241:PHE:HE2	1.85	0.41
3:JA:524:PHE:HZ	3:JA:556:MET:HG3	1.85	0.41
3:JA:745:VAL:HG21	3:JA:763:LEU:HD23	2.01	0.41
7:UD:250:THR:HG21	7:UD:309:GLN:HE22	1.86	0.41
8:UE:184:PHE:CE1	8:UE:220:GLY:HA2	2.55	0.41
9:UF:193:ILE:HG13	9:UF:266:ARG:HB3	2.02	0.41
13:UJ:297:LEU:HA	13:UJ:297:LEU:HD23	1.83	0.41
15:UL:437:LYS:HD3	15:UL:437:LYS:HA	1.82	0.41
17:UN:345:VAL:HA	17:UN:348:GLU:HB2	2.01	0.41
18:UO:402:ASP:OD2	18:UO:434:ARG:NH2	2.54	0.41
20:UQ:512:ILE:HD11	20:UQ:514:TYR:CZ	2.56	0.41
22:US:270:SER:O	22:US:274:TYR:HB2	2.20	0.41
23:UT:233:LEU:HB2	23:UT:274:LEU:HD11	2.03	0.41
23:UT:1475:GLN:HE22	23:UT:1517:HIS:HA	1.85	0.41
23:UT:1557:GLU:O	23:UT:1561:ILE:HG12	2.20	0.41
25:UV:1037:LEU:HD12	25:UV:1037:LEU:HA	1.87	0.41
34:CK:430:LEU:HD12	45:JN:203:ILE:HD12	2.02	0.41
35:CL:548:ASN:HB3	35:CL:551:LYS:HG2	2.02	0.41
35:CL:1078:PRO:O	35:CL:1082:GLN:HG3	2.21	0.41
36:CM:192:THR:HA	36:CM:224:ASN:O	2.20	0.41
37:CN:162:THR:HA	37:CN:163:PRO:HD3	1.91	0.41
39:JG:34:LYS:HD3	39:JG:34:LYS:HA	1.81	0.41
51:DG:109:LEU:HD23	51:DG:109:LEU:HA	1.86	0.41
52:DH:21:ALA:O	52:DH:25:VAL:HG23	2.20	0.41
65:D2:217:C:H2'	65:D2:218:U:C6	2.54	0.41
66:D3:63:G:O2'	66:D3:170:U:OP1	2.38	0.41
66:D3:312:A:H62	66:D3:352:A:H1'	1.86	0.41
66:D3:1715:G:H2'	66:D3:1716:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:D3:1744:A:H2'	66:D3:1745:G:C8	2.55	0.41
3:JA:77:ILE:HD13	3:JA:77:ILE:HA	1.94	0.41
3:JA:641:ASN:HA	3:JA:642:PRO:HD3	1.94	0.41
3:JA:805:ILE:O	3:JA:809:LYS:HG2	2.20	0.41
4:UA:140:ARG:HD2	4:UA:142:HIS:CE1	2.56	0.41
4:UA:162:LEU:HD22	4:UA:199:PHE:CE2	2.55	0.41
4:UA:453:PHE:HB3	4:UA:475:PRO:HA	2.03	0.41
1:CB:91:HIS:NE2	14:UK:163:GLU:O	2.52	0.41
5:UB:510:THR:HG23	5:UB:518:ILE:HG21	2.02	0.41
7:UD:87:GLN:H	7:UD:378:TYR:HE2	1.68	0.41
7:UD:468:ASP:N	7:UD:468:ASP:OD1	2.53	0.41
10:UG:133:HIS:HD2	10:UG:149:PHE:CE1	2.38	0.41
11:UH:588:GLN:HG3	20:UQ:606:HIS:HB3	2.02	0.41
13:UJ:491:TYR:O	13:UJ:495:LEU:HG	2.21	0.41
13:UJ:560:ILE:HG23	13:UJ:563:LEU:HD13	2.03	0.41
13:UJ:1472:VAL:O	13:UJ:1476:LEU:HG	2.21	0.41
15:UL:420:LYS:HA	15:UL:420:LYS:HD3	1.80	0.41
17:UN:894:LEU:HD22	47:JP:272:MET:HA	2.02	0.41
18:UO:413:LEU:O	18:UO:417:VAL:HG23	2.21	0.41
23:UT:294:VAL:HA	23:UT:297:VAL:HG22	2.02	0.41
23:UT:305:SER:O	23:UT:305:SER:OG	2.36	0.41
23:UT:2004:LYS:HA	23:UT:2004:LYS:HD2	1.92	0.41
25:UV:305:PRO:HB2	25:UV:306:LYS:HZ2	1.85	0.41
25:UV:807:LEU:HD23	25:UV:807:LEU:HA	1.89	0.41
25:UV:826:SER:OG	25:UV:827:ARG:N	2.53	0.41
28:CD:100:ILE:HD13	28:CD:100:ILE:HA	1.88	0.41
29:CE:2:ALA:HB3	29:CE:17:ALA:HB3	2.02	0.41
30:CG:43:THR:HG22	30:CG:48:ILE:HD11	2.02	0.41
31:CH:205:SER:OG	31:CH:206:LYS:N	2.54	0.41
36:CM:27:SER:OG	36:CM:28:GLY:N	2.54	0.41
38:JC:277:ILE:HA	38:JC:289:ILE:O	2.21	0.41
39:JF:41:MET:HG3	39:JF:202:ILE:HG23	2.02	0.41
46:JO:180:LEU:HD23	46:JO:180:LEU:HA	1.86	0.41
52:DH:151:LYS:HB2	52:DH:151:LYS:HE3	1.84	0.41
53:DI:199:LYS:HE3	53:DI:199:LYS:HB3	1.97	0.41
55:DL:56:LYS:HE3	55:DL:56:LYS:HB2	1.92	0.41
65:D2:112:U:H2'	65:D2:113:A:H8	1.83	0.41
65:D2:186:C:H2'	65:D2:187:A:C8	2.55	0.41
66:D3:114:C:N3	66:D3:247:A:C5	2.89	0.41
66:D3:919:A:H2'	66:D3:920:U:C6	2.56	0.41
66:D3:1582:U:C2	66:D3:1614:A:N7	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:D3:1728:A:H2'	66:D3:1729:C:C6	2.56	0.41
1:CA:210:MET:HE3	1:CA:210:MET:HB3	1.90	0.41
2:DA:88:VAL:HG22	2:DA:98:THR:HG22	2.03	0.41
3:JA:618:ILE:HD12	3:JA:618:ILE:HA	1.91	0.41
3:JA:738:LYS:HD2	3:JA:807:SER:HB3	2.02	0.41
4:UA:787:ILE:HD12	4:UA:787:ILE:HA	1.87	0.41
5:UB:515:HIS:HB3	5:UB:518:ILE:HB	2.02	0.41
13:UJ:308:GLY:HA2	21:UR:225:SER:HB3	2.02	0.41
13:UJ:1392:LEU:O	13:UJ:1396:LEU:HG	2.20	0.41
15:UL:288:LYS:HE2	15:UL:288:LYS:HB2	1.87	0.41
15:UL:415:LYS:HB3	15:UL:417:TRP:HE1	1.85	0.41
15:UL:552:ASP:O	15:UL:554:THR:N	2.54	0.41
15:UL:557:VAL:HB	15:UL:567:LEU:HB3	2.02	0.41
20:UQ:318:GLU:O	20:UQ:320:VAL:N	2.53	0.41
20:UQ:458:GLN:HE21	20:UQ:467:GLN:HG3	1.85	0.41
21:UR:363:LEU:HD12	21:UR:374:ILE:HD13	2.03	0.41
23:UT:259:LEU:HD23	23:UT:263:LEU:HD23	2.02	0.41
23:UT:1508:GLN:HB3	23:UT:1550:GLN:HG3	2.03	0.41
27:UZ:101:ILE:HD12	27:UZ:101:ILE:HA	1.92	0.41
37:CN:151:HIS:CE1	37:CN:153:ASN:HB3	2.56	0.41
38:JC:83:VAL:O	38:JC:92:LYS:N	2.54	0.41
38:JC:144:LEU:HD21	38:JC:153:LEU:HD12	2.01	0.41
53:DI:74:LYS:HD2	53:DI:74:LYS:HA	1.91	0.41
58:DQ:29:ILE:HG23	58:DQ:65:ILE:HB	2.02	0.41
62:DY:10:ARG:NH1	62:DY:26:ASP:OD2	2.49	0.41
66:D3:52:U:H2'	66:D3:53:G:C8	2.54	0.41
66:D3:87:C:O2'	66:D3:169:A:N1	2.43	0.41
66:D3:872:G:H2'	66:D3:873:U:O4'	2.21	0.41
66:D3:1692:G:N2	66:D3:1693:A:C4	2.88	0.41
66:D3:1706:C:H2'	66:D3:1707:A:C5	2.56	0.41
66:D3:1734:U:C2'	66:D3:1735:U:H5'	2.50	0.41
67:D4:94:A:H2'	67:D4:95:A:C8	2.56	0.41
4:UA:268:PHE:HA	4:UA:274:LEU:O	2.21	0.41
4:UA:441:SER:O	4:UA:443:GLU:N	2.52	0.41
4:UA:572:LYS:HE3	4:UA:572:LYS:HB3	1.83	0.41
4:UA:679:VAL:HA	4:UA:698:THR:HG21	2.02	0.41
9:UF:50:ILE:HD13	9:UF:50:ILE:HA	1.89	0.41
9:UF:167:ILE:HD13	9:UF:167:ILE:HA	1.89	0.41
15:UL:326:LEU:HD23	15:UL:326:LEU:HA	1.88	0.41
15:UL:341:ALA:HA	15:UL:354:VAL:O	2.21	0.41
16:UM:196:LEU:HD12	16:UM:196:LEU:HA	1.91	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:UO:391:ASN:HD21	18:UO:403:ASN:HD22	1.69	0.41
19:UP:166:LEU:HD12	19:UP:166:LEU:HA	1.90	0.41
19:UP:206:LEU:HD23	19:UP:206:LEU:HA	1.83	0.41
20:UQ:171:TYR:HD1	20:UQ:171:TYR:HA	1.74	0.41
20:UQ:343:ASP:HB3	20:UQ:357:ILE:HD13	2.02	0.41
21:UR:424:ILE:HG23	21:UR:434:GLU:HG2	2.03	0.41
22:US:199:PHE:HE2	22:US:264:LEU:HD11	1.85	0.41
23:UT:997:MET:O	23:UT:1001:VAL:HG23	2.20	0.41
23:UT:1471:GLU:O	23:UT:1517:HIS:NE2	2.53	0.41
25:UV:703:LYS:HA	25:UV:706:ASN:HD22	1.85	0.41
25:UV:1028:ARG:HA	25:UV:1028:ARG:HD3	1.75	0.41
25:UV:1074:LEU:HD12	25:UV:1078:HIS:HD2	1.85	0.41
25:UV:1159:ASN:HD22	25:UV:1201:ASP:HB3	1.86	0.41
35:CL:105:ILE:HG23	35:CL:117:PHE:HB2	2.01	0.41
37:CN:205:SER:O	37:CN:205:SER:OG	2.32	0.41
42:JJ:117:TYR:CD1	42:JJ:118:PRO:HD3	2.56	0.41
46:JO:287:LYS:HB3	46:JO:287:LYS:HE3	1.88	0.41
47:JP:333:LYS:HB3	47:JP:333:LYS:HE3	1.84	0.41
50:DF:206:SER:O	50:DF:206:SER:OG	2.30	0.41
50:DF:213:LYS:HA	50:DF:213:LYS:HD3	1.85	0.41
65:D2:410:A:H2'	65:D2:411:A:C8	2.56	0.41
66:D3:269:G:C5	66:D3:287:G:N1	2.89	0.41
2:DA:47:LEU:HD23	2:DA:47:LEU:HA	1.91	0.41
4:UA:3:SER:O	4:UA:3:SER:OG	2.34	0.41
4:UA:386:HIS:NE2	4:UA:404:SER:OG	2.40	0.41
3:JB:619:SER:HA	3:JB:623:GLN:HA	2.03	0.41
5:UB:615:PRO:HB2	5:UB:617:HIS:CE1	2.56	0.41
7:UD:116:SER:OG	7:UD:126:TRP:NE1	2.34	0.41
7:UD:213:TRP:NE1	7:UD:225:LEU:HB3	2.36	0.41
7:UD:310:ASN:ND2	20:UQ:289:GLN:OE1	2.53	0.41
7:UD:530:ARG:HD3	7:UD:530:ARG:HA	1.81	0.41
8:UE:168:HIS:H	8:UE:191:VAL:HG13	1.86	0.41
10:UG:113:PRO:HB2	10:UG:379:GLU:CG	2.51	0.41
13:UJ:314:GLN:HE22	13:UJ:357:ARG:HD3	1.85	0.41
13:UJ:345:ASP:N	13:UJ:345:ASP:OD1	2.52	0.41
13:UJ:752:ALA:O	13:UJ:756:LEU:HG	2.21	0.41
15:UL:574:LEU:HD23	15:UL:574:LEU:HA	1.88	0.41
16:UM:226:ASN:OD1	16:UM:227:MET:N	2.54	0.41
18:UO:12:LYS:HB2	18:UO:12:LYS:HE3	1.80	0.41
18:UO:390:ARG:HE	18:UO:394:GLN:HE22	1.69	0.41
20:UQ:397:LYS:H	20:UQ:397:LYS:HG2	1.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:UR:412:GLN:OE1	21:UR:420:ARG:NH1	2.54	0.41
22:US:259:LYS:HD2	22:US:259:LYS:HA	1.71	0.41
22:US:383:LEU:HD23	22:US:383:LEU:HA	1.86	0.41
23:UT:199:LEU:HD23	23:UT:199:LEU:HA	1.84	0.41
23:UT:356:ASP:HB3	23:UT:747:TRP:CZ3	2.56	0.41
23:UT:772:ILE:HG23	23:UT:773:LEU:HD22	2.03	0.41
23:UT:1112:TRP:HA	23:UT:1118:LEU:HB3	2.02	0.41
24:UU:817:PHE:CE1	24:UU:833:LEU:HD11	2.56	0.41
24:UU:859:ASP:N	24:UU:859:ASP:OD1	2.54	0.41
24:UU:894:ASP:OD2	42:JJ:258:LYS:NZ	2.52	0.41
25:UV:167:PRO:HD3	25:UV:226:HIS:CE1	2.56	0.41
25:UV:261:ASN:ND2	25:UV:590:SER:OG	2.54	0.41
25:UV:504:GLN:O	25:UV:506:GLN:NE2	2.54	0.41
27:UZ:13:ALA:O	27:UZ:17:LEU:HG	2.20	0.41
27:UZ:182:SER:O	27:UZ:185:LYS:HG2	2.21	0.41
28:CD:37:GLN:OE1	47:JP:385:VAL:N	2.51	0.41
29:CE:147:ILE:HD12	29:CE:147:ILE:HA	1.91	0.41
29:CE:208:ILE:HG12	29:CE:223:LEU:HD23	2.03	0.41
29:CE:248:THR:OG1	29:CE:251:ASP:OD2	2.38	0.41
31:CH:407:MET:HG3	31:CH:413:PHE:HB3	2.02	0.41
35:CL:157:ASN:O	35:CL:161:HIS:ND1	2.54	0.41
35:CL:280:LEU:HD12	35:CL:281:PRO:HD2	2.03	0.41
38:JC:164:ARG:HH12	38:JC:174:ASN:HB3	1.86	0.41
45:JN:161:GLU:OE1	45:JN:214:ARG:NE	2.51	0.41
45:JN:248:LYS:HA	45:JN:248:LYS:HD2	1.80	0.41
46:JO:52:TYR:O	46:JO:55:THR:OG1	2.28	0.41
47:JP:304:HIS:CE1	47:JP:330:ARG:HG2	2.56	0.41
48:JQ:127:ARG:O	48:JQ:131:LEU:CB	2.69	0.41
49:DE:49:ARG:HH11	49:DE:49:ARG:HD3	1.74	0.41
56:DN:136:PRO:HG2	56:DN:139:TRP:HB2	2.03	0.41
65:D2:314:U:O2'	65:D2:315:U:OP1	2.33	0.41
65:D2:467:A:N1	65:D2:468:A:N6	2.69	0.41
66:D3:805:U:H2'	66:D3:806:A:H8	1.84	0.41
66:D3:1158:C:N4	66:D3:1164:G:N1	2.68	0.41
67:D4:199:G:H2'	67:D4:200:C:C6	2.55	0.41
2:DA:77:GLU:HA	2:DA:80:SER:HB3	2.03	0.41
4:UA:327:LEU:HD12	4:UA:328:LEU:H	1.86	0.41
1:CB:171:LEU:HB3	1:CB:240:VAL:HG22	2.02	0.41
6:UC:596:THR:HG22	44:JM:137:LYS:HG3	2.02	0.41
7:UD:213:TRP:CD1	7:UD:225:LEU:HB3	2.55	0.41
13:UJ:1441:ILE:HA	13:UJ:1444:ILE:HG12	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:UO:71:ARG:HD2	18:UO:331:THR:HG21	2.03	0.41
18:UO:212:ASP:OD1	18:UO:212:ASP:N	2.50	0.41
22:US:159:ASN:OD1	22:US:159:ASN:N	2.54	0.41
23:UT:67:ALA:O	23:UT:71:GLU:HB3	2.21	0.41
23:UT:383:ASN:O	23:UT:387:THR:HG23	2.21	0.41
23:UT:829:ASN:ND2	23:UT:864:ASP:OD2	2.50	0.41
23:UT:961:ILE:O	23:UT:965:LEU:HG	2.21	0.41
23:UT:1084:ALA:HA	23:UT:1087:VAL:HG22	2.02	0.41
23:UT:1381:LYS:HA	23:UT:1382:PRO:HD3	1.96	0.41
23:UT:1394:LEU:HA	23:UT:1398:LEU:HG	2.02	0.41
23:UT:1415:SER:HA	23:UT:1418:VAL:HG12	2.03	0.41
24:UU:452:ARG:H	24:UU:452:ARG:HG2	1.70	0.41
24:UU:500:LEU:HD11	24:UU:539:LYS:HE2	2.03	0.41
25:UV:525:LEU:HD23	25:UV:525:LEU:HA	1.92	0.41
25:UV:549:SER:O	25:UV:553:VAL:HG23	2.21	0.41
27:UZ:85:GLU:O	27:UZ:89:LYS:HB2	2.20	0.41
28:CD:121:ASN:O	28:CD:125:GLN:HG2	2.21	0.41
31:CH:464:LEU:HD23	31:CH:464:LEU:HA	1.92	0.41
34:CK:524:ASP:HA	34:CK:527:ARG:HG2	2.03	0.41
48:JQ:183:ARG:HG3	48:JQ:184:TYR:CD2	2.56	0.41
49:DE:37:LYS:HE2	49:DE:37:LYS:HB3	1.93	0.41
50:DF:102:ARG:NH2	66:D3:1471:A:N7	2.69	0.41
53:DI:10:LYS:NZ	66:D3:323:A:OP2	2.42	0.41
53:DI:56:ARG:HH21	66:D3:332:U:P	2.43	0.41
57:DO:29:HIS:CD2	57:DO:41:ARG:HG3	2.55	0.41
61:DX:82:LYS:HE2	61:DX:82:LYS:HB3	1.94	0.41
65:D2:252:A:H1'	65:D2:254:C:C4	2.56	0.41
66:D3:89:G:C6	66:D3:452:A:N6	2.89	0.41
66:D3:145:A:O2'	66:D3:146:U:O5'	2.33	0.41
66:D3:646:C:H2'	66:D3:647:G:C8	2.56	0.41
66:D3:1784:C:H2'	66:D3:1785:U:C6	2.56	0.41
3:JA:737:TRP:O	3:JA:740:ASN:C	2.60	0.40
4:UA:569:PHE:CE1	4:UA:574:SER:HB2	2.56	0.40
4:UA:750:LEU:HA	4:UA:750:LEU:HD23	1.88	0.40
7:UD:128:LEU:HB2	7:UD:526:PRO:HG2	2.03	0.40
7:UD:212:ILE:HB	7:UD:227:HIS:HB2	2.03	0.40
7:UD:261:SER:OG	7:UD:262:ILE:N	2.54	0.40
7:UD:291:ASP:N	7:UD:291:ASP:OD1	2.52	0.40
10:UG:464:LYS:HG3	66:D3:-2:A:C6	2.56	0.40
12:UI:471:LYS:HG2	12:UI:472:ASP:H	1.85	0.40
13:UJ:348:ILE:O	13:UJ:352:THR:HG23	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:UJ:575:SER:HB2	13:UJ:578:VAL:HB	2.02	0.40
13:UJ:585:ILE:O	13:UJ:589:ILE:HG12	2.21	0.40
13:UJ:657:GLN:O	13:UJ:661:ILE:HG12	2.22	0.40
13:UJ:670:LEU:O	13:UJ:674:LEU:HG	2.21	0.40
13:UJ:715:HIS:HA	13:UJ:718:ARG:HB2	2.04	0.40
14:UK:141:GLU:O	14:UK:145:GLU:HB2	2.21	0.40
16:UM:538:ASP:O	16:UM:550:THR:HA	2.21	0.40
16:UM:584:ILE:HG23	16:UM:586:LYS:N	2.36	0.40
23:UT:136:LEU:HD23	23:UT:136:LEU:HA	1.90	0.40
23:UT:864:ASP:OD1	23:UT:865:VAL:N	2.53	0.40
23:UT:1437:MET:HE3	23:UT:1481:ILE:HG13	2.03	0.40
25:UV:462:PHE:HD2	25:UV:466:THR:HG21	1.86	0.40
25:UV:704:PHE:HB3	25:UV:954:LEU:HD23	2.02	0.40
25:UV:841:ASN:ND2	25:UV:851:LYS:HB3	2.35	0.40
25:UV:1111:SER:HA	25:UV:1129:PRO:HG3	2.01	0.40
34:CK:326:LEU:HD11	35:CL:1009:VAL:HG12	2.02	0.40
35:CL:207:LEU:HD12	35:CL:215:TYR:HB3	2.03	0.40
35:CL:210:VAL:HG21	70:CL:2001:GTP:N9	2.27	0.40
38:JC:187:SER:OG	38:JC:234:THR:O	2.33	0.40
39:JG:195:LYS:HD2	39:JG:195:LYS:HA	1.87	0.40
50:DF:26:ALA:N	58:DQ:27:GLY:O	2.53	0.40
51:DG:131:LYS:HE3	66:D3:166:C:H4'	2.01	0.40
51:DG:194:LYS:HA	51:DG:197:ASN:HD21	1.86	0.40
52:DH:74:GLN:O	52:DH:78:THR:HG23	2.22	0.40
65:D2:100:G:H2'	65:D2:101:G:O4'	2.21	0.40
65:D2:125:G:H2'	65:D2:126:A:C8	2.56	0.40
65:D2:189:U:O2	65:D2:209:G:C2	2.74	0.40
65:D2:389:U:H2'	65:D2:390:C:C6	2.56	0.40
66:D3:1643:U:H2'	66:D3:1644:C:H6	1.86	0.40
1:CA:163:PHE:CG	1:CA:266:GLY:HA3	2.56	0.40
2:DA:2:ALA:N	57:DO:48:VAL:O	2.54	0.40
2:DA:70:LEU:HD12	2:DA:70:LEU:HA	1.92	0.40
3:JA:624:ASP:OD1	3:JA:624:ASP:N	2.54	0.40
4:UA:275:LEU:HD22	4:UA:289:LEU:HD22	2.02	0.40
4:UA:432:GLN:O	4:UA:449:SER:HB2	2.21	0.40
7:UD:149:ILE:HG22	7:UD:156:LEU:HB3	2.04	0.40
7:UD:248:PRO:HD2	7:UD:292:ASN:ND2	2.36	0.40
8:UE:441:LEU:HD12	8:UE:456:VAL:HG11	2.03	0.40
13:UJ:235:VAL:HG22	13:UJ:264:PHE:CE2	2.57	0.40
13:UJ:1583:GLN:HE22	13:UJ:1629:SER:HB3	1.87	0.40
13:UJ:1633:ASP:HB2	13:UJ:1638:TRP:HE1	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:UJ:1662:ILE:HA	13:UJ:1665:TYR:HD2	1.86	0.40
14:UK:8:VAL:HG11	35:CL:878:HIS:HD2	1.86	0.40
14:UK:162:SER:OG	14:UK:163:GLU:N	2.54	0.40
16:UM:42:ILE:HD12	16:UM:54:HIS:CE1	2.56	0.40
18:UO:2:SER:HB2	20:UQ:334:LEU:HG	2.03	0.40
18:UO:303:LEU:HA	18:UO:303:LEU:HD23	1.82	0.40
20:UQ:319:LYS:HD3	20:UQ:339:GLY:H	1.87	0.40
21:UR:318:ARG:HH11	21:UR:318:ARG:HD3	1.76	0.40
23:UT:762:ILE:HD13	23:UT:762:ILE:HA	1.96	0.40
23:UT:1231:LYS:HB2	23:UT:1231:LYS:HE2	1.93	0.40
23:UT:1519:SER:OG	23:UT:1521:ASN:OD1	2.33	0.40
23:UT:1783:LEU:HD12	23:UT:1783:LEU:HA	1.84	0.40
24:UU:44:LEU:HA	24:UU:44:LEU:HD23	1.72	0.40
24:UU:377:SER:O	24:UU:377:SER:OG	2.33	0.40
25:UV:808:LEU:HD23	25:UV:808:LEU:HA	1.86	0.40
27:UZ:129:TYR:CE2	48:JQ:187:LEU:HD22	2.56	0.40
33:CJ:109:LEU:HD23	33:CJ:109:LEU:HA	1.89	0.40
36:CM:144:PHE:HZ	36:CM:301:MET:HG3	1.86	0.40
39:JG:50:LEU:HD22	39:JG:141:MET:HG2	2.03	0.40
45:JN:326:ILE:O	45:JN:330:SER:OG	2.25	0.40
46:JO:59:ASP:OD1	46:JO:62:ARG:NH2	2.36	0.40
46:JO:116:ILE:HD12	46:JO:116:ILE:HA	1.77	0.40
49:DE:209:HIS:CD2	49:DE:219:VAL:HG22	2.57	0.40
55:DL:104:HIS:O	55:DL:105:LYS:NZ	2.36	0.40
67:D4:98:U:H2'	67:D4:99:U:H6	1.87	0.40
67:D4:258:U:H2'	67:D4:259:C:C6	2.56	0.40
2:DA:73:LEU:HD12	2:DA:73:LEU:HA	1.90	0.40
3:JA:132:PRO:HB3	3:JA:490:LEU:HD11	2.03	0.40
3:JA:563:LYS:NZ	3:JA:564:LEU:H	2.20	0.40
4:UA:532:VAL:HG12	4:UA:540:SER:HB2	2.02	0.40
4:UA:600:SER:HA	4:UA:615:PHE:O	2.22	0.40
4:UA:800:LYS:HG3	24:UU:928:PHE:CE2	2.56	0.40
5:UB:515:HIS:O	5:UB:519:THR:OG1	2.40	0.40
5:UB:780:LYS:HE2	5:UB:780:LYS:HB2	1.92	0.40
5:UB:798:LYS:HE2	5:UB:798:LYS:HB3	1.84	0.40
6:UC:540:ILE:HD12	35:CL:148:PHE:HB3	2.03	0.40
7:UD:361:LEU:HD23	7:UD:361:LEU:HA	1.89	0.40
7:UD:382:VAL:HG22	7:UD:393:SER:HB2	2.02	0.40
7:UD:757:ARG:NH1	7:UD:759:PRO:HG3	2.37	0.40
13:UJ:1666:LEU:O	13:UJ:1670:ILE:HG12	2.21	0.40
15:UL:63:LEU:HD11	15:UL:111:LYS:HB2	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:UL:142:ASP:N	15:UL:142:ASP:OD1	2.54	0.40
15:UL:262:ILE:O	15:UL:270:SER:OG	2.35	0.40
15:UL:398:ASP:OD1	15:UL:399:ILE:N	2.53	0.40
15:UL:661:TRP:HE1	15:UL:677:HIS:HB2	1.86	0.40
16:UM:230:LYS:HB3	16:UM:230:LYS:HE2	1.98	0.40
20:UQ:861:GLU:HG3	21:UR:227:LEU:HD11	2.02	0.40
22:US:436:LYS:HA	22:US:436:LYS:HD3	1.76	0.40
23:UT:642:ILE:HD13	23:UT:642:ILE:HA	1.86	0.40
23:UT:1432:THR:HA	23:UT:1435:GLU:HG2	2.02	0.40
23:UT:1681:LEU:HD23	23:UT:1690:LEU:HB2	2.03	0.40
23:UT:1811:ILE:HG21	23:UT:1879:VAL:HG21	2.03	0.40
24:UU:520:CYS:SG	24:UU:549:MET:HB2	2.62	0.40
25:UV:799:LEU:HG	25:UV:803:LYS:HE3	2.02	0.40
35:CL:210:VAL:HG22	70:CL:2001:GTP:N7	2.28	0.40
35:CL:852:ARG:HD2	35:CL:888:PRO:HG3	2.02	0.40
35:CL:1049:ASN:HD22	35:CL:1049:ASN:HA	1.78	0.40
36:CM:291:ARG:HG2	36:CM:317:GLN:HG2	2.02	0.40
38:JC:275:LYS:HA	38:JC:275:LYS:HD2	1.75	0.40
39:JF:64:LYS:HD2	39:JF:64:LYS:HA	1.92	0.40
39:JG:113:TYR:HA	39:JG:122:ILE:O	2.21	0.40
44:JM:177:LEU:HD12	44:JM:177:LEU:HA	1.93	0.40
47:JP:244:ILE:HB	47:JP:258:ILE:HG23	2.03	0.40
49:DE:118:GLU:OE2	49:DE:237:SER:N	2.41	0.40
51:DG:1:MET:HG3	51:DG:24:ILE:HG12	2.03	0.40
51:DG:105:ASP:OD1	51:DG:105:ASP:N	2.51	0.40
54:DJ:144:PRO:HD2	66:D3:474:A:H5''	2.03	0.40
60:DW:69:LEU:HD12	60:DW:69:LEU:HA	1.91	0.40
62:DY:121:THR:HG23	62:DY:123:LYS:HG2	2.03	0.40
65:D2:133:U:H2'	65:D2:134:A:H8	1.87	0.40
65:D2:438:U:H2'	65:D2:439:A:C8	2.56	0.40
66:D3:405:C:H2'	66:D3:406:U:H6	1.86	0.40
66:D3:1659:A:H2'	66:D3:1660:A:C8	2.56	0.40
1:CA:110:ASN:HD22	1:CA:113:PRO:HA	1.85	0.40
3:JA:57:TRP:HB2	3:JA:103:ILE:HD11	2.03	0.40
3:JA:58:ALA:HB3	3:JA:124:LEU:HD13	2.04	0.40
6:UC:591:TYR:OH	6:UC:594:GLU:OE1	2.31	0.40
15:UL:243:THR:HG22	15:UL:244:GLU:H	1.86	0.40
16:UM:281:THR:OG1	16:UM:282:ASN:N	2.55	0.40
16:UM:461:LEU:O	16:UM:489:ALA:N	2.52	0.40
18:UO:135:GLN:HG3	18:UO:181:PRO:HB3	2.04	0.40
20:UQ:232:ASP:OD1	20:UQ:232:ASP:N	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:UQ:499:LYS:HD3	20:UQ:499:LYS:HA	1.95	0.40
20:UQ:579:ASN:HD21	65:D2:7:A:N6	2.19	0.40
21:UR:534:SER:OG	21:UR:535:ARG:N	2.55	0.40
23:UT:59:LEU:HD23	23:UT:59:LEU:HA	1.91	0.40
23:UT:1377:PHE:HA	23:UT:1380:GLU:HB2	2.04	0.40
23:UT:1918:LEU:HD23	23:UT:1918:LEU:HA	1.97	0.40
24:UU:284:ILE:HG12	24:UU:337:VAL:HG21	2.03	0.40
24:UU:435:LYS:HE2	24:UU:435:LYS:HB2	1.89	0.40
24:UU:626:ASP:OD1	24:UU:626:ASP:N	2.54	0.40
25:UV:1154:ASN:HD21	25:UV:1163:LEU:H	1.69	0.40
28:CD:164:LYS:HE2	28:CD:164:LYS:HB2	1.95	0.40
29:CE:36:ASP:HA	29:CE:39:LEU:HB3	2.02	0.40
29:CE:281:LYS:HG2	29:CE:288:THR:HG21	2.03	0.40
31:CH:553:ILE:HD13	31:CH:553:ILE:HA	1.88	0.40
35:CL:82:LYS:N	70:CL:2001:GTP:O1A	2.53	0.40
35:CL:836:LYS:HD2	35:CL:836:LYS:HA	1.94	0.40
35:CL:841:THR:HG23	35:CL:859:ILE:HA	2.02	0.40
35:CL:958:VAL:HG13	35:CL:976:ILE:HD11	2.03	0.40
46:JO:195:HIS:CG	46:JO:197:ILE:HG22	2.57	0.40
49:DE:214:LEU:HD23	49:DE:244:ILE:HG23	2.03	0.40
50:DF:100:ASN:HD22	50:DF:103:ASN:ND2	2.20	0.40
53:DI:65:PHE:HA	53:DI:181:GLY:O	2.21	0.40
56:DN:64:ARG:HH22	66:D3:862:A:H8	1.69	0.40
65:D2:304:U:H5'	65:D2:305:A:C8	2.56	0.40
66:D3:111:U:H2'	66:D3:112:A:C8	2.56	0.40
5:UB:561:ILE:HG22	5:UB:564:VAL:H	1.86	0.40
7:UD:288:THR:OG1	7:UD:289:ASP:N	2.54	0.40
8:UE:250:ASP:OD1	8:UE:250:ASP:N	2.52	0.40
12:UI:489:SER:O	12:UI:492:ILE:HG22	2.21	0.40
13:UJ:295:ALA:HA	13:UJ:298:THR:HG22	2.03	0.40
13:UJ:1384:SER:HB3	13:UJ:1400:ILE:HD13	2.04	0.40
13:UJ:1539:MET:HE3	13:UJ:1540:ASN:H	1.86	0.40
13:UJ:1696:LYS:HD2	13:UJ:1696:LYS:HA	1.85	0.40
15:UL:111:LYS:HB2	15:UL:111:LYS:HE3	1.87	0.40
15:UL:250:LYS:HA	15:UL:250:LYS:HD2	1.85	0.40
16:UM:239:VAL:HG12	16:UM:240:ASN:H	1.86	0.40
16:UM:249:LEU:HB2	16:UM:257:ILE:HG13	2.03	0.40
16:UM:312:GLN:HB3	16:UM:329:VAL:HG21	2.03	0.40
16:UM:518:TRP:HB3	16:UM:525:LEU:HA	2.03	0.40
18:UO:20:THR:HG21	18:UO:28:ARG:NH2	2.36	0.40
20:UQ:20:PRO:HA	20:UQ:48:PHE:HD1	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:UR:524:SER:HB2	21:UR:527:GLY:H	1.87	0.40
23:UT:673:ARG:HG2	23:UT:678:TRP:HZ2	1.86	0.40
23:UT:1338:SER:HA	23:UT:1377:PHE:HE1	1.86	0.40
23:UT:1591:TYR:HE1	23:UT:1616:LEU:HD21	1.86	0.40
24:UU:364:HIS:CD2	24:UU:381:ARG:HG3	2.56	0.40
25:UV:579:LYS:HE2	25:UV:620:ASN:HA	2.04	0.40
25:UV:660:ASP:OD1	25:UV:660:ASP:N	2.47	0.40
25:UV:1215:ASN:O	25:UV:1219:ILE:HG12	2.22	0.40
26:UX:67:ILE:HG21	26:UX:67:ILE:HD13	1.88	0.40
28:CD:113:PHE:HA	28:CD:114:PRO:HD3	1.90	0.40
30:CG:59:GLU:HA	30:CG:60:PRO:HA	1.96	0.40
32:CI:94:ILE:HG13	32:CI:97:LEU:HD23	2.02	0.40
35:CL:38:LYS:HD2	66:D3:376:C:H5'	2.03	0.40
38:JC:17:SER:HG	38:JC:53:PHE:HE2	1.70	0.40
39:JG:196:LEU:HD11	39:JG:202:ILE:HB	2.04	0.40
42:JJ:126:LEU:HD11	42:JJ:141:THR:HB	2.03	0.40
46:JO:45:PHE:HE1	46:JO:50:GLU:HB2	1.87	0.40
49:DE:82:TYR:HA	49:DE:83:PRO:HD3	1.97	0.40
57:DO:72:LYS:NZ	57:DO:108:SER:O	2.55	0.40
66:D3:141:U:H3	66:D3:267:U:P	2.44	0.40
66:D3:343:C:H2'	66:D3:344:A:C8	2.56	0.40
66:D3:876:G:O6	66:D3:935:U:C2	2.75	0.40
67:D4:27:U:H4'	67:D4:28:A:C8	2.56	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	CA	238/327 (73%)	220 (92%)	18 (8%)	0	100 100
1	CB	224/327 (68%)	208 (93%)	16 (7%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	DA	236/255 (92%)	217 (92%)	19 (8%)	0	100	100
3	JA	802/1056 (76%)	735 (92%)	67 (8%)	0	100	100
3	JB	827/1056 (78%)	758 (92%)	69 (8%)	0	100	100
4	UA	830/923 (90%)	758 (91%)	72 (9%)	0	100	100
5	UB	495/810 (61%)	470 (95%)	24 (5%)	1 (0%)	47	79
6	UC	124/610 (20%)	112 (90%)	12 (10%)	0	100	100
7	UD	663/776 (85%)	599 (90%)	64 (10%)	0	100	100
8	UE	465/643 (72%)	412 (89%)	53 (11%)	0	100	100
9	UF	283/440 (64%)	276 (98%)	7 (2%)	0	100	100
10	UG	529/554 (96%)	481 (91%)	48 (9%)	0	100	100
11	UH	426/713 (60%)	345 (81%)	58 (14%)	23 (5%)	2	22
12	UI	100/575 (17%)	97 (97%)	3 (3%)	0	100	100
13	UJ	1092/1769 (62%)	1030 (94%)	62 (6%)	0	100	100
14	UK	238/250 (95%)	219 (92%)	19 (8%)	0	100	100
15	UL	828/943 (88%)	752 (91%)	75 (9%)	1 (0%)	51	83
16	UM	750/817 (92%)	674 (90%)	74 (10%)	2 (0%)	41	74
17	UN	143/899 (16%)	132 (92%)	11 (8%)	0	100	100
18	UO	489/513 (95%)	446 (91%)	43 (9%)	0	100	100
19	UP	58/214 (27%)	55 (95%)	3 (5%)	0	100	100
20	UQ	820/896 (92%)	750 (92%)	70 (8%)	0	100	100
21	UR	474/594 (80%)	434 (92%)	40 (8%)	0	100	100
22	US	488/552 (88%)	445 (91%)	41 (8%)	2 (0%)	34	70
23	UT	2213/2493 (89%)	2086 (94%)	127 (6%)	0	100	100
24	UU	842/939 (90%)	776 (92%)	66 (8%)	0	100	100
25	UV	1069/1237 (86%)	1020 (95%)	49 (5%)	0	100	100
26	UX	170/189 (90%)	161 (95%)	9 (5%)	0	100	100
27	UZ	245/274 (89%)	225 (92%)	20 (8%)	0	100	100
28	CD	376/504 (75%)	358 (95%)	18 (5%)	0	100	100
29	CE	431/511 (84%)	397 (92%)	34 (8%)	0	100	100
30	CF	121/126 (96%)	115 (95%)	6 (5%)	0	100	100
30	CG	121/126 (96%)	116 (96%)	5 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
31	CH	459/573 (80%)	419 (91%)	37 (8%)	3 (1%)	22	60
32	CI	180/183 (98%)	167 (93%)	13 (7%)	0	100	100
33	CJ	278/290 (96%)	249 (90%)	29 (10%)	0	100	100
34	CK	203/593 (34%)	186 (92%)	16 (8%)	1 (0%)	29	66
35	CL	771/1183 (65%)	731 (95%)	40 (5%)	0	100	100
36	CM	358/367 (98%)	342 (96%)	16 (4%)	0	100	100
37	CN	224/297 (75%)	204 (91%)	20 (9%)	0	100	100
38	JC	350/707 (50%)	313 (89%)	37 (11%)	0	100	100
39	JF	212/252 (84%)	203 (96%)	9 (4%)	0	100	100
39	JG	226/252 (90%)	217 (96%)	9 (4%)	0	100	100
40	JH	257/483 (53%)	248 (96%)	9 (4%)	0	100	100
41	JI	263/1729 (15%)	255 (97%)	8 (3%)	0	100	100
42	JJ	180/274 (66%)	171 (95%)	9 (5%)	0	100	100
43	JK	40/534 (8%)	33 (82%)	7 (18%)	0	100	100
44	JM	129/217 (59%)	122 (95%)	7 (5%)	0	100	100
45	JN	178/346 (51%)	162 (91%)	14 (8%)	2 (1%)	14	51
46	JO	226/316 (72%)	212 (94%)	14 (6%)	0	100	100
47	JP	457/489 (94%)	427 (93%)	30 (7%)	0	100	100
48	JQ	59/206 (29%)	54 (92%)	5 (8%)	0	100	100
49	DE	243/261 (93%)	227 (93%)	16 (7%)	0	100	100
50	DF	211/225 (94%)	195 (92%)	16 (8%)	0	100	100
51	DG	216/236 (92%)	205 (95%)	11 (5%)	0	100	100
52	DH	182/190 (96%)	171 (94%)	11 (6%)	0	100	100
53	DI	173/200 (86%)	162 (94%)	11 (6%)	0	100	100
54	DJ	183/197 (93%)	172 (94%)	11 (6%)	0	100	100
55	DL	138/156 (88%)	129 (94%)	9 (6%)	0	100	100
56	DN	148/151 (98%)	140 (95%)	8 (5%)	0	100	100
57	DO	118/137 (86%)	111 (94%)	7 (6%)	0	100	100
58	DQ	123/143 (86%)	115 (94%)	8 (6%)	0	100	100
59	DS	98/146 (67%)	89 (91%)	9 (9%)	0	100	100
60	DW	127/130 (98%)	111 (87%)	16 (13%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
61	DX	101/145 (70%)	89 (88%)	11 (11%)	1 (1%)	15	52
62	DY	132/135 (98%)	129 (98%)	3 (2%)	0	100	100
63	Db	79/82 (96%)	75 (95%)	4 (5%)	0	100	100
64	Dc	61/67 (91%)	56 (92%)	5 (8%)	0	100	100
All	All	24593/34803 (71%)	22770 (93%)	1787 (7%)	36 (0%)	54	83

All (36) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
11	UH	59	PRO
11	UH	61	PRO
11	UH	68	PRO
11	UH	70	PRO
11	UH	235	PRO
11	UH	258	PRO
11	UH	285	TYR
11	UH	309	PRO
11	UH	325	PRO
22	US	75	PRO
31	CH	438	ILE
34	CK	454	VAL
45	JN	94	PRO
5	UB	395	ASP
11	UH	31	VAL
11	UH	56	ILE
11	UH	299	HIS
11	UH	533	PRO
61	DX	90	ASP
11	UH	51	SER
11	UH	127	TYR
11	UH	264	SER
11	UH	274	ASN
11	UH	350	LEU
31	CH	439	ALA
11	UH	202	LYS
15	UL	615	GLN
16	UM	420	ASN
11	UH	298	PRO
11	UH	308	PHE
16	UM	422	CYS
22	US	80	SER

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Mol	Chain	Res	Type
11	UH	29	VAL
31	CH	437	ARG
45	JN	102	PRO
11	UH	267	ILE

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	CA	202/240 (84%)	201 (100%)	1 (0%)	88	94
1	CB	192/240 (80%)	189 (98%)	3 (2%)	62	79
2	DA	212/224 (95%)	211 (100%)	1 (0%)	88	94
3	JA	555/934 (59%)	550 (99%)	5 (1%)	78	88
4	UA	730/812 (90%)	723 (99%)	7 (1%)	76	86
5	UB	344/732 (47%)	344 (100%)	0	100	100
6	UC	107/538 (20%)	106 (99%)	1 (1%)	78	88
7	UD	615/713 (86%)	615 (100%)	0	100	100
8	UE	428/574 (75%)	427 (100%)	1 (0%)	93	97
9	UF	277/414 (67%)	275 (99%)	2 (1%)	84	91
10	UG	462/480 (96%)	457 (99%)	5 (1%)	73	85
11	UH	152/657 (23%)	152 (100%)	0	100	100
12	UI	99/533 (19%)	99 (100%)	0	100	100
13	UJ	1031/1633 (63%)	1025 (99%)	6 (1%)	86	92
14	UK	226/234 (97%)	226 (100%)	0	100	100
15	UL	747/832 (90%)	743 (100%)	4 (0%)	88	94
16	UM	668/719 (93%)	664 (99%)	4 (1%)	86	92
17	UN	137/808 (17%)	136 (99%)	1 (1%)	84	91
18	UO	437/454 (96%)	433 (99%)	4 (1%)	78	88
19	UP	57/196 (29%)	56 (98%)	1 (2%)	59	77

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
20	UQ	769/826 (93%)	768 (100%)	1 (0%)	93	97
21	UR	425/529 (80%)	423 (100%)	2 (0%)	88	94
22	US	332/506 (66%)	331 (100%)	1 (0%)	92	96
23	UT	1787/2307 (78%)	1780 (100%)	7 (0%)	91	95
24	UU	743/819 (91%)	739 (100%)	4 (0%)	88	94
25	UV	986/1125 (88%)	980 (99%)	6 (1%)	86	92
26	UX	156/169 (92%)	156 (100%)	0	100	100
27	UZ	230/256 (90%)	230 (100%)	0	100	100
28	CD	326/435 (75%)	325 (100%)	1 (0%)	92	96
29	CE	353/433 (82%)	349 (99%)	4 (1%)	73	85
30	CF	102/104 (98%)	102 (100%)	0	100	100
30	CG	101/104 (97%)	99 (98%)	2 (2%)	55	75
31	CH	406/503 (81%)	406 (100%)	0	100	100
32	CI	171/172 (99%)	170 (99%)	1 (1%)	86	92
33	CJ	251/258 (97%)	246 (98%)	5 (2%)	55	75
34	CK	187/535 (35%)	186 (100%)	1 (0%)	88	94
35	CL	690/1039 (66%)	684 (99%)	6 (1%)	78	88
36	CM	307/312 (98%)	307 (100%)	0	100	100
37	CN	212/274 (77%)	211 (100%)	1 (0%)	88	94
38	JC	318/636 (50%)	316 (99%)	2 (1%)	86	92
39	JF	195/222 (88%)	195 (100%)	0	100	100
39	JG	206/222 (93%)	205 (100%)	1 (0%)	88	94
42	JJ	158/238 (66%)	156 (99%)	2 (1%)	69	82
43	JK	35/482 (7%)	35 (100%)	0	100	100
44	JM	124/200 (62%)	122 (98%)	2 (2%)	62	79
45	JN	141/304 (46%)	141 (100%)	0	100	100
46	JO	210/289 (73%)	210 (100%)	0	100	100
47	JP	416/443 (94%)	413 (99%)	3 (1%)	84	91
48	JQ	22/192 (12%)	22 (100%)	0	100	100
49	DE	209/222 (94%)	208 (100%)	1 (0%)	88	94
50	DF	180/191 (94%)	180 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
51	DG	187/201 (93%)	185 (99%)	2 (1%)	73	85
52	DH	165/170 (97%)	164 (99%)	1 (1%)	86	92
53	DI	142/161 (88%)	141 (99%)	1 (1%)	84	91
54	DJ	158/166 (95%)	158 (100%)	0	100	100
55	DL	125/137 (91%)	123 (98%)	2 (2%)	62	79
56	DN	127/128 (99%)	127 (100%)	0	100	100
57	DO	91/105 (87%)	90 (99%)	1 (1%)	73	85
58	DQ	105/119 (88%)	105 (100%)	0	100	100
60	DW	110/111 (99%)	110 (100%)	0	100	100
61	DX	85/120 (71%)	84 (99%)	1 (1%)	71	84
62	DY	112/113 (99%)	112 (100%)	0	100	100
63	Db	70/71 (99%)	70 (100%)	0	100	100
64	Dc	56/60 (93%)	56 (100%)	0	100	100
All	All	19959/27976 (71%)	19852 (100%)	107 (0%)	89	94

All (107) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	CA	244	VAL
2	DA	126	THR
3	JA	104	ARG
3	JA	523	LEU
3	JA	769	ARG
3	JA	771	SER
3	JA	823	LYS
4	UA	424	THR
4	UA	430	ARG
4	UA	481	PHE
4	UA	582	THR
4	UA	585	TYR
4	UA	617	VAL
4	UA	682	THR
1	CB	92	ARG
1	CB	107	VAL
1	CB	322	ARG
6	UC	433	ARG
8	UE	310	THR

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Mol	Chain	Res	Type
9	UF	85	ASP
9	UF	271	LEU
10	UG	96	ASP
10	UG	153	THR
10	UG	229	ARG
10	UG	253	ASN
10	UG	544	ASP
13	UJ	131	ASN
13	UJ	228	ASP
13	UJ	699	ARG
13	UJ	1511	ARG
13	UJ	1542	LYS
13	UJ	1590	ILE
15	UL	297	LYS
15	UL	315	LYS
15	UL	526	THR
15	UL	656	HIS
16	UM	30	LYS
16	UM	219	ILE
16	UM	256	ARG
16	UM	602	TRP
17	UN	313	PHE
18	UO	42	VAL
18	UO	173	THR
18	UO	189	TYR
18	UO	229	CYS
19	UP	158	LYS
20	UQ	867	VAL
21	UR	265	THR
21	UR	314	THR
22	US	500	ASP
23	UT	243	THR
23	UT	449	ARG
23	UT	503	ARG
23	UT	899	ASP
23	UT	958	LYS
23	UT	1623	LEU
23	UT	1743	LYS
24	UU	19	LYS
24	UU	485	THR
24	UU	634	PHE
24	UU	644	THR

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Mol	Chain	Res	Type
25	UV	99	LYS
25	UV	245	LYS
25	UV	347	LYS
25	UV	477	LEU
25	UV	598	LYS
25	UV	742	PHE
28	CD	8	LEU
29	CE	37	LYS
29	CE	80	LYS
29	CE	215	ARG
29	CE	247	ILE
30	CG	64	LEU
30	CG	79	VAL
32	CI	5	LEU
33	CJ	92	THR
33	CJ	116	ARG
33	CJ	153	THR
33	CJ	234	ARG
33	CJ	265	THR
34	CK	478	ASP
35	CL	92	ARG
35	CL	306	ASP
35	CL	320	PHE
35	CL	366	MET
35	CL	960	ARG
35	CL	973	ARG
37	CN	267	LYS
38	JC	192	ASN
38	JC	258	ARG
39	JG	110	LEU
42	JJ	144	LYS
42	JJ	269	ARG
44	JM	60	LYS
44	JM	135	HIS
47	JP	230	ASN
47	JP	255	THR
47	JP	292	ARG
49	DE	78	THR
51	DG	92	ARG
51	DG	98	ARG
52	DH	104	ARG
53	DI	151	LYS

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Mol	Chain	Res	Type
55	DL	67	ARG
55	DL	99	ARG
57	DO	90	ARG
61	DX	43	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (271) such sidechains are listed below:

Mol	Chain	Res	Type
2	DA	79	HIS
2	DA	232	HIS
3	JA	16	ASN
3	JA	75	ASN
3	JA	117	ASN
3	JA	125	GLN
3	JA	487	ASN
3	JA	532	ASN
3	JA	587	GLN
3	JA	731	GLN
3	JA	772	ASN
3	JA	800	GLN
3	JA	822	ASN
3	JA	847	ASN
3	JA	881	GLN
3	JA	894	ASN
4	UA	91	HIS
4	UA	142	HIS
4	UA	203	GLN
4	UA	432	GLN
4	UA	597	ASN
4	UA	734	GLN
1	CB	110	ASN
1	CB	256	ASN
5	UB	446	GLN
5	UB	495	ASN
5	UB	515	HIS
5	UB	617	HIS
5	UB	686	ASN
5	UB	703	GLN
7	UD	53	HIS
7	UD	106	ASN
7	UD	140	ASN
7	UD	179	HIS

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Mol	Chain	Res	Type
7	UD	310	ASN
7	UD	315	GLN
7	UD	381	ASN
7	UD	529	ASN
7	UD	567	ASN
7	UD	595	ASN
7	UD	642	ASN
8	UE	218	HIS
8	UE	360	ASN
8	UE	443	GLN
9	UF	169	GLN
9	UF	170	ASN
9	UF	198	ASN
10	UG	88	GLN
10	UG	124	HIS
10	UG	170	GLN
10	UG	321	ASN
10	UG	400	ASN
10	UG	447	ASN
11	UH	609	ASN
12	UI	447	ASN
13	UJ	7	GLN
13	UJ	15	ASN
13	UJ	43	GLN
13	UJ	116	HIS
13	UJ	162	ASN
13	UJ	166	ASN
13	UJ	226	ASN
13	UJ	615	ASN
13	UJ	673	ASN
13	UJ	698	ASN
13	UJ	709	ASN
13	UJ	715	HIS
13	UJ	722	ASN
13	UJ	750	ASN
13	UJ	807	ASN
13	UJ	1390	ASN
13	UJ	1447	ASN
13	UJ	1533	ASN
13	UJ	1683	HIS
14	UK	68	HIS
14	UK	95	GLN

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Mol	Chain	Res	Type
14	UK	144	ASN
14	UK	247	GLN
15	UL	88	HIS
15	UL	264	ASN
15	UL	276	ASN
15	UL	360	ASN
15	UL	390	GLN
15	UL	403	ASN
15	UL	629	ASN
15	UL	651	GLN
15	UL	656	HIS
15	UL	916	HIS
16	UM	89	HIS
16	UM	187	GLN
16	UM	189	HIS
16	UM	241	GLN
16	UM	315	ASN
16	UM	522	ASN
16	UM	585	ASN
16	UM	667	GLN
16	UM	753	HIS
16	UM	798	ASN
17	UN	310	HIS
17	UN	839	ASN
18	UO	39	HIS
18	UO	133	HIS
18	UO	137	ASN
18	UO	403	ASN
18	UO	502	GLN
20	UQ	24	ASN
20	UQ	49	ASN
20	UQ	50	ASN
20	UQ	112	ASN
20	UQ	115	HIS
20	UQ	200	ASN
20	UQ	269	GLN
20	UQ	289	GLN
20	UQ	329	ASN
20	UQ	400	GLN
20	UQ	410	ASN
20	UQ	478	ASN
20	UQ	540	ASN

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Mol	Chain	Res	Type
20	UQ	579	ASN
20	UQ	690	ASN
20	UQ	719	ASN
20	UQ	738	ASN
20	UQ	825	GLN
21	UR	20	GLN
21	UR	151	ASN
21	UR	159	HIS
21	UR	206	ASN
21	UR	224	ASN
21	UR	282	ASN
21	UR	348	HIS
21	UR	385	ASN
21	UR	438	ASN
22	US	200	ASN
22	US	228	HIS
22	US	266	ASN
22	US	404	ASN
22	US	472	HIS
23	UT	46	HIS
23	UT	75	GLN
23	UT	112	GLN
23	UT	207	ASN
23	UT	248	HIS
23	UT	378	HIS
23	UT	418	GLN
23	UT	492	GLN
23	UT	493	ASN
23	UT	544	ASN
23	UT	547	ASN
23	UT	611	GLN
23	UT	687	ASN
23	UT	710	ASN
23	UT	1098	ASN
23	UT	1100	GLN
23	UT	1101	GLN
23	UT	1356	ASN
23	UT	1379	ASN
23	UT	1385	ASN
23	UT	1401	ASN
23	UT	1475	GLN
23	UT	1546	GLN

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Mol	Chain	Res	Type
23	UT	1630	ASN
23	UT	1907	ASN
24	UU	88	HIS
24	UU	135	ASN
24	UU	163	GLN
24	UU	421	ASN
24	UU	575	GLN
24	UU	627	ASN
25	UV	101	ASN
25	UV	120	HIS
25	UV	177	ASN
25	UV	199	ASN
25	UV	221	ASN
25	UV	261	ASN
25	UV	293	ASN
25	UV	402	ASN
25	UV	441	GLN
25	UV	582	GLN
25	UV	602	ASN
25	UV	647	ASN
25	UV	705	HIS
25	UV	706	ASN
25	UV	729	ASN
25	UV	841	ASN
25	UV	1078	HIS
25	UV	1148	GLN
25	UV	1154	ASN
25	UV	1199	ASN
26	UX	46	GLN
27	UZ	41	ASN
27	UZ	52	ASN
27	UZ	145	HIS
27	UZ	193	ASN
27	UZ	214	GLN
27	UZ	221	ASN
28	CD	23	GLN
28	CD	125	GLN
28	CD	189	ASN
28	CD	213	ASN
28	CD	270	ASN
30	CF	45	ASN
30	CG	32	GLN

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Mol	Chain	Res	Type
30	CG	38	ASN
31	CH	156	ASN
31	CH	164	GLN
31	CH	314	GLN
31	CH	419	ASN
32	CI	23	GLN
32	CI	37	HIS
32	CI	163	ASN
33	CJ	26	GLN
33	CJ	164	GLN
33	CJ	168	HIS
34	CK	526	ASN
35	CL	157	ASN
35	CL	173	HIS
35	CL	239	ASN
35	CL	254	HIS
35	CL	548	ASN
35	CL	761	GLN
35	CL	770	GLN
35	CL	832	HIS
35	CL	1049	ASN
37	CN	135	ASN
37	CN	136	ASN
37	CN	139	ASN
37	CN	148	HIS
37	CN	187	HIS
38	JC	88	ASN
38	JC	101	ASN
38	JC	124	GLN
38	JC	150	ASN
38	JC	287	ASN
39	JF	53	HIS
39	JF	73	HIS
39	JF	115	GLN
39	JF	165	ASN
39	JG	243	HIS
44	JM	74	ASN
46	JO	58	ASN
46	JO	151	ASN
46	JO	217	ASN
46	JO	284	GLN
47	JP	20	GLN

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Mol	Chain	Res	Type
47	JP	81	ASN
47	JP	168	ASN
47	JP	207	ASN
47	JP	230	ASN
47	JP	260	GLN
47	JP	466	HIS
48	JQ	182	HIS
49	DE	8	HIS
49	DE	96	ASN
49	DE	98	ASN
49	DE	153	ASN
50	DF	103	ASN
50	DF	224	ASN
51	DG	56	ASN
51	DG	139	ASN
51	DG	185	GLN
51	DG	197	ASN
53	DI	87	ASN
53	DI	103	GLN
56	DN	5	HIS
56	DN	105	ASN
60	DW	44	HIS
60	DW	92	ASN
62	DY	29	HIS
62	DY	34	ASN
63	Db	19	HIS
63	Db	26	GLN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
65	D2	443/700 (63%)	121 (27%)	6 (1%)
66	D3	1303/1808 (72%)	441 (33%)	22 (1%)
67	D4	223/333 (66%)	63 (28%)	4 (1%)
All	All	1969/2841 (69%)	625 (31%)	32 (1%)

All (625) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
65	D2	6	A
65	D2	8	A

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Mol	Chain	Res	Type
65	D2	14	U
65	D2	15	G
65	D2	58	U
65	D2	63	G
65	D2	64	U
65	D2	66	C
65	D2	68	U
65	D2	82	A
65	D2	83	U
65	D2	90	G
65	D2	98	G
65	D2	101	G
65	D2	102	A
65	D2	103	G
65	D2	104	A
65	D2	109	C
65	D2	110	G
65	D2	124	A
65	D2	125	G
65	D2	129	U
65	D2	130	G
65	D2	141	A
65	D2	142	U
65	D2	144	C
65	D2	150	G
65	D2	151	U
65	D2	152	U
65	D2	153	U
65	D2	154	A
65	D2	155	A
65	D2	163	G
65	D2	169	A
65	D2	170	U
65	D2	171	G
65	D2	177	U
65	D2	184	U
65	D2	191	U
65	D2	193	G
65	D2	197	G
65	D2	200	A
65	D2	207	G
65	D2	215	U

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Mol	Chain	Res	Type
65	D2	227	U
65	D2	233	G
65	D2	235	A
65	D2	236	C
65	D2	238	G
65	D2	239	U
65	D2	240	C
65	D2	252	A
65	D2	253	U
65	D2	256	U
65	D2	257	G
65	D2	259	G
65	D2	261	U
65	D2	262	U
65	D2	267	U
65	D2	268	G
65	D2	273	G
65	D2	279	A
65	D2	280	A
65	D2	281	G
65	D2	294	U
65	D2	303	A
65	D2	304	U
65	D2	305	A
65	D2	310	U
65	D2	311	C
65	D2	312	U
65	D2	313	A
65	D2	314	U
65	D2	315	U
65	D2	316	U
65	D2	323	A
65	D2	324	U
65	D2	325	U
65	D2	326	C
65	D2	330	C
65	D2	331	U
65	D2	333	G
65	D2	336	G
65	D2	337	G
65	D2	353	A
65	D2	354	G

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Mol	Chain	Res	Type
65	D2	356	C
65	D2	365	G
65	D2	369	G
65	D2	370	U
65	D2	371	G
65	D2	372	A
65	D2	373	U
65	D2	381	G
65	D2	382	U
65	D2	385	A
65	D2	386	A
65	D2	395	C
65	D2	398	A
65	D2	407	A
65	D2	428	A
65	D2	430	C
65	D2	431	A
65	D2	432	C
65	D2	441	C
65	D2	444	U
65	D2	445	U
65	D2	451	G
65	D2	461	A
65	D2	462	G
65	D2	467	A
65	D2	468	A
65	D2	469	C
65	D2	473	A
65	D2	476	A
65	D2	477	G
65	D2	481	U
65	D2	482	A
65	D2	485	G
65	D2	486	U
65	D2	487	A
66	D3	-6	A
66	D3	-4	A
66	D3	-1	G
66	D3	1	U
66	D3	2	A
66	D3	4	C
66	D3	5	U

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Mol	Chain	Res	Type
66	D3	6	G
66	D3	9	U
66	D3	17	C
66	D3	18	C
66	D3	25	C
66	D3	26	A
66	D3	28	A
66	D3	34	G
66	D3	35	U
66	D3	39	A
66	D3	42	G
66	D3	43	A
66	D3	44	U
66	D3	46	A
66	D3	47	A
66	D3	48	G
66	D3	57	G
66	D3	63	G
66	D3	65	A
66	D3	68	A
66	D3	69	G
66	D3	71	A
66	D3	72	A
66	D3	73	U
66	D3	74	U
66	D3	75	U
66	D3	76	A
66	D3	77	U
66	D3	78	A
66	D3	81	G
66	D3	83	G
66	D3	100	A
66	D3	103	A
66	D3	104	A
66	D3	108	A
66	D3	114	C
66	D3	116	U
66	D3	126	A
66	D3	140	A
66	D3	141	U
66	D3	145	A
66	D3	146	U

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Mol	Chain	Res	Type
66	D3	150	U
66	D3	153	G
66	D3	156	A
66	D3	159	U
66	D3	160	C
66	D3	172	C
66	D3	176	C
66	D3	184	C
66	D3	186	C
66	D3	187	G
66	D3	188	A
66	D3	190	C
66	D3	191	C
66	D3	192	U
66	D3	193	U
66	D3	194	U
66	D3	195	G
66	D3	197	A
66	D3	198	A
66	D3	199	G
66	D3	203	U
66	D3	207	U
66	D3	216	U
66	D3	231	U
66	D3	232	U
66	D3	233	C
66	D3	234	G
66	D3	237	C
66	D3	238	U
66	D3	239	C
66	D3	240	U
66	D3	243	G
66	D3	244	A
66	D3	246	G
66	D3	247	A
66	D3	249	U
66	D3	250	C
66	D3	258	C
66	D3	261	U
66	D3	263	C
66	D3	266	A
66	D3	267	U

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Mol	Chain	Res	Type
66	D3	271	A
66	D3	272	U
66	D3	273	G
66	D3	274	G
66	D3	275	C
66	D3	277	U
66	D3	278	U
66	D3	279	G
66	D3	280	U
66	D3	281	G
66	D3	282	C
66	D3	288	A
66	D3	299	A
66	D3	302	U
66	D3	303	U
66	D3	305	C
66	D3	312	A
66	D3	313	U
66	D3	314	C
66	D3	315	A
66	D3	316	A
66	D3	317	C
66	D3	320	U
66	D3	321	C
66	D3	323	A
66	D3	324	U
66	D3	330	G
66	D3	333	A
66	D3	335	U
66	D3	336	G
66	D3	337	G
66	D3	338	C
66	D3	341	A
66	D3	342	C
66	D3	343	C
66	D3	344	A
66	D3	345	U
66	D3	346	G
66	D3	349	U
66	D3	350	U
66	D3	351	C
66	D3	352	A

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Mol	Chain	Res	Type
66	D3	355	G
66	D3	359	A
66	D3	360	A
66	D3	361	C
66	D3	371	G
66	D3	373	G
66	D3	374	U
66	D3	375	U
66	D3	378	A
66	D3	379	U
66	D3	380	U
66	D3	381	C
66	D3	383	G
66	D3	387	A
66	D3	388	G
66	D3	389	G
66	D3	393	C
66	D3	399	A
66	D3	400	A
66	D3	402	C
66	D3	407	A
66	D3	408	C
66	D3	410	A
66	D3	416	A
66	D3	417	A
66	D3	418	G
66	D3	423	G
66	D3	424	C
66	D3	425	A
66	D3	426	G
66	D3	428	A
66	D3	435	C
66	D3	438	A
66	D3	439	U
66	D3	444	C
66	D3	448	C
66	D3	452	A
66	D3	460	A
66	D3	461	G
66	D3	464	A
66	D3	467	G
66	D3	468	A

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Mol	Chain	Res	Type
66	D3	475	A
66	D3	477	A
66	D3	482	U
66	D3	486	G
66	D3	487	G
66	D3	496	G
66	D3	501	U
66	D3	505	A
66	D3	506	A
66	D3	510	G
66	D3	511	A
66	D3	515	A
66	D3	518	A
66	D3	519	C
66	D3	520	A
66	D3	525	A
66	D3	527	A
66	D3	536	C
66	D3	538	A
66	D3	542	A
66	D3	543	C
66	D3	545	A
66	D3	548	G
66	D3	551	G
66	D3	552	G
66	D3	557	G
66	D3	563	U
66	D3	564	G
66	D3	565	C
66	D3	570	A
66	D3	575	C
66	D3	576	G
66	D3	578	U
66	D3	579	A
66	D3	580	A
66	D3	584	C
66	D3	585	A
66	D3	586	G
66	D3	587	C
66	D3	594	A
66	D3	595	G
66	D3	635	A

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Mol	Chain	Res	Type
66	D3	639	U
66	D3	640	U
66	D3	647	G
66	D3	649	U
66	D3	650	U
66	D3	653	C
66	D3	655	G
66	D3	656	G
66	D3	657	U
66	D3	658	C
66	D3	677	G
66	D3	678	A
66	D3	679	U
66	D3	680	U
66	D3	681	U
66	D3	682	C
66	D3	685	A
66	D3	691	C
66	D3	692	C
66	D3	693	U
66	D3	695	U
66	D3	752	A
66	D3	755	A
66	D3	756	A
66	D3	757	A
66	D3	758	U
66	D3	761	G
66	D3	762	A
66	D3	763	G
66	D3	764	U
66	D3	765	G
66	D3	766	U
66	D3	767	U
66	D3	768	C
66	D3	771	A
66	D3	774	A
66	D3	775	G
66	D3	777	C
66	D3	778	G
66	D3	780	A
66	D3	781	U
66	D3	782	U

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Mol	Chain	Res	Type
66	D3	783	G
66	D3	784	C
66	D3	785	U
66	D3	786	C
66	D3	788	A
66	D3	793	A
66	D3	794	U
66	D3	795	U
66	D3	796	A
66	D3	803	A
66	D3	804	A
66	D3	810	G
66	D3	818	C
66	D3	819	G
66	D3	820	U
66	D3	821	U
66	D3	822	U
66	D3	826	U
66	D3	832	U
66	D3	834	G
66	D3	835	U
66	D3	839	U
66	D3	840	U
66	D3	841	U
66	D3	844	A
66	D3	847	A
66	D3	851	U
66	D3	853	G
66	D3	855	A
66	D3	863	A
66	D3	864	U
66	D3	875	G
66	D3	876	G
66	D3	896	U
66	D3	898	A
66	D3	906	A
66	D3	912	U
66	D3	913	G
66	D3	914	G
66	D3	915	A
66	D3	921	U
66	D3	926	A

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Mol	Chain	Res	Type
66	D3	931	C
66	D3	932	U
66	D3	933	A
66	D3	935	U
66	D3	942	G
66	D3	944	A
66	D3	948	G
66	D3	951	A
66	D3	960	U
66	D3	966	A
66	D3	969	C
66	D3	970	A
66	D3	971	A
66	D3	1029	U
66	D3	1031	U
66	D3	1033	C
66	D3	1036	A
66	D3	1038	U
66	D3	1040	G
66	D3	1042	G
66	D3	1043	A
66	D3	1044	U
66	D3	1053	G
66	D3	1058	U
66	D3	1060	U
66	D3	1061	A
66	D3	1062	A
66	D3	1063	U
66	D3	1064	G
66	D3	1072	C
66	D3	1075	C
66	D3	1079	U
66	D3	1113	A
66	D3	1119	G
66	D3	1122	G
66	D3	1126	G
66	D3	1127	G
66	D3	1128	C
66	D3	1132	A
66	D3	1133	A
66	D3	1136	U
66	D3	1143	A

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Mol	Chain	Res	Type
66	D3	1145	U
66	D3	1146	G
66	D3	1149	G
66	D3	1158	C
66	D3	1159	C
66	D3	1160	A
66	D3	1167	G
66	D3	1178	G
66	D3	1203	A
66	D3	1204	A
66	D3	1205	C
66	D3	1206	U
66	D3	1207	C
66	D3	1208	A
66	D3	1217	A
66	D3	1218	G
66	D3	1219	A
66	D3	1261	G
66	D3	1267	G
66	D3	1268	G
66	D3	1269	U
66	D3	1270	G
66	D3	1276	U
66	D3	1434	U
66	D3	1436	A
66	D3	1437	U
66	D3	1438	G
66	D3	1439	C
66	D3	1442	U
66	D3	1443	U
66	D3	1472	C
66	D3	1473	U
66	D3	1474	G
66	D3	1485	C
66	D3	1488	G
66	D3	1489	U
66	D3	1490	C
66	D3	1491	U
66	D3	1492	A
66	D3	1493	A
66	D3	1498	G
66	D3	1504	G

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Mol	Chain	Res	Type
66	D3	1506	G
66	D3	1516	A
66	D3	1526	A
66	D3	1541	G
66	D3	1570	A
66	D3	1573	A
66	D3	1574	G
66	D3	1584	G
66	D3	1590	G
66	D3	1595	U
66	D3	1596	C
66	D3	1600	A
66	D3	1601	G
66	D3	1602	C
66	D3	1607	G
66	D3	1618	C
66	D3	1619	C
66	D3	1621	U
66	D3	1627	U
66	D3	1628	U
66	D3	1629	G
66	D3	1630	U
66	D3	1631	A
66	D3	1632	C
66	D3	1638	G
66	D3	1639	C
66	D3	1651	A
66	D3	1657	U
66	D3	1658	G
66	D3	1659	A
66	D3	1660	A
66	D3	1666	U
66	D3	1670	G
66	D3	1681	A
66	D3	1682	U
66	D3	1683	C
66	D3	1684	U
66	D3	1686	C
66	D3	1690	G
66	D3	1695	G
66	D3	1697	G
66	D3	1703	C

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Mol	Chain	Res	Type
66	D3	1706	C
66	D3	1707	A
66	D3	1711	C
66	D3	1712	A
66	D3	1716	C
66	D3	1736	G
66	D3	1742	U
66	D3	1746	A
66	D3	1769	U
66	D3	1773	C
66	D3	1780	G
66	D3	1782	A
66	D3	1783	C
66	D3	1784	C
67	D4	4	G
67	D4	14	A
67	D4	15	U
67	D4	16	A
67	D4	22	A
67	D4	24	U
67	D4	25	U
67	D4	28	A
67	D4	30	A
67	D4	32	G
67	D4	33	A
67	D4	35	U
67	D4	36	C
67	D4	38	U
67	D4	47	G
67	D4	48	A
67	D4	50	U
67	D4	55	A
67	D4	56	A
67	D4	61	G
67	D4	90	C
67	D4	91	C
67	D4	103	A
67	D4	114	A
67	D4	115	G
67	D4	118	A
67	D4	138	A
67	D4	139	G

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Mol	Chain	Res	Type
67	D4	140	C
67	D4	144	G
67	D4	145	U
67	D4	146	C
67	D4	151	A
67	D4	152	U
67	D4	155	U
67	D4	156	U
67	D4	157	A
67	D4	158	G
67	D4	159	C
67	D4	162	U
67	D4	176	A
67	D4	178	U
67	D4	183	A
67	D4	185	A
67	D4	186	A
67	D4	188	A
67	D4	199	G
67	D4	206	C
67	D4	248	G
67	D4	252	C
67	D4	254	A
67	D4	255	U
67	D4	267	A
67	D4	305	G
67	D4	312	U
67	D4	313	A
67	D4	318	U
67	D4	319	G
67	D4	322	A
67	D4	324	U
67	D4	325	C
67	D4	328	A
67	D4	329	C

All (32) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
65	D2	81	A
65	D2	82	A
65	D2	311	C

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Mol	Chain	Res	Type
65	D2	314	U
65	D2	325	U
65	D2	468	A
66	D3	-2	A
66	D3	0	U
66	D3	1	U
66	D3	39	A
66	D3	72	A
66	D3	139	C
66	D3	278	U
66	D3	417	A
66	D3	545	A
66	D3	579	A
66	D3	586	G
66	D3	691	C
66	D3	782	U
66	D3	912	U
66	D3	1057	U
66	D3	1491	U
66	D3	1573	A
66	D3	1594	G
66	D3	1620	C
66	D3	1638	G
66	D3	1657	U
66	D3	1706	C
67	D4	143	G
67	D4	151	A
67	D4	157	A
67	D4	318	U

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 5 ligands modelled in this entry, 4 are monoatomic - leaving 1 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
70	GTP	CL	2001	69	26,34,34	0.94	1 (3%)	32,54,54	1.56	5 (15%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
70	GTP	CL	2001	69	-	4/18/38/38	0/3/3/3

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
70	CL	2001	GTP	C6-N1	-2.49	1.34	1.37

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
70	CL	2001	GTP	PB-O3B-PG	-4.05	118.94	132.83
70	CL	2001	GTP	PA-O3A-PB	-3.83	119.67	132.83
70	CL	2001	GTP	C3'-C2'-C1'	3.26	105.88	100.98
70	CL	2001	GTP	C5-C6-N1	2.32	118.04	113.95
70	CL	2001	GTP	C8-N7-C5	2.31	107.40	102.99

There are no chirality outliers.

All (4) torsion outliers are listed below:

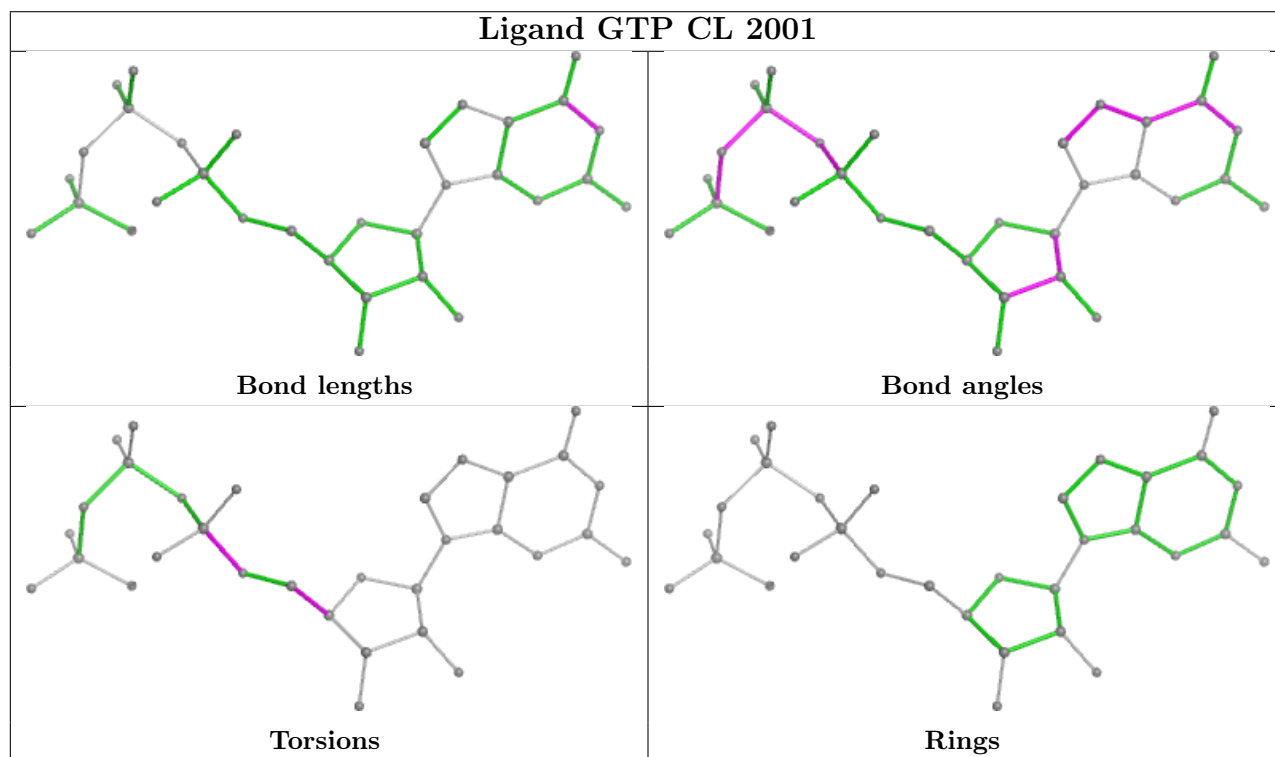
Mol	Chain	Res	Type	Atoms
70	CL	2001	GTP	C5'-O5'-PA-O3A
70	CL	2001	GTP	C5'-O5'-PA-O2A
70	CL	2001	GTP	C3'-C4'-C5'-O5'
70	CL	2001	GTP	O4'-C4'-C5'-O5'

There are no ring outliers.

1 monomer is involved in 26 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
70	CL	2001	GTP	26	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



5.7 Other polymers [\(i\)](#)

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

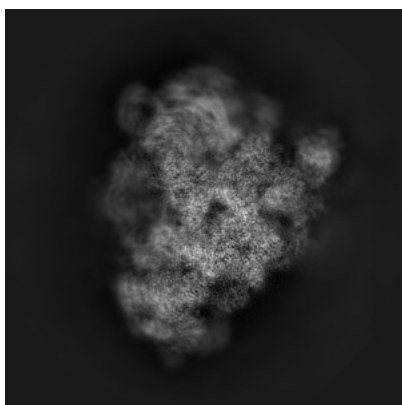
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-11359. These allow visual inspection of the internal detail of the map and identification of artifacts.

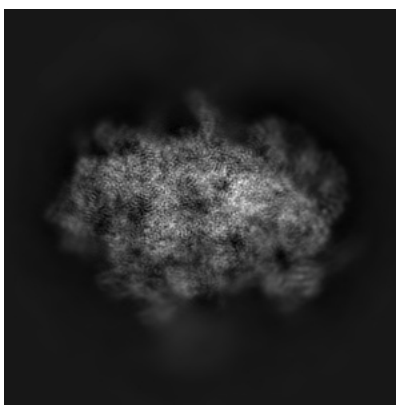
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

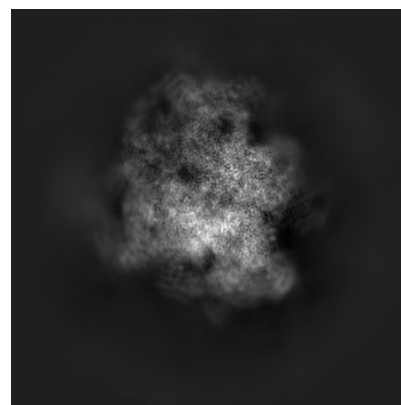
6.1.1 Primary map



X



Y

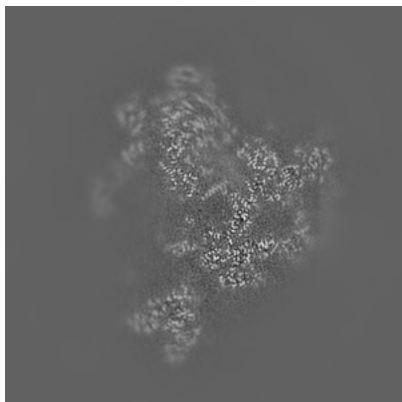


Z

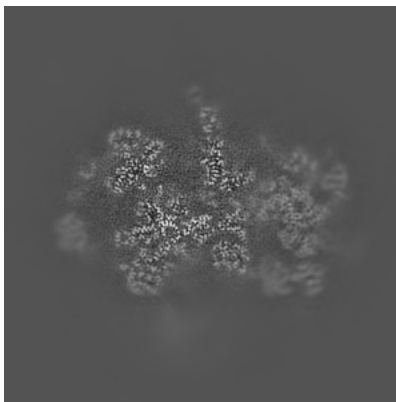
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

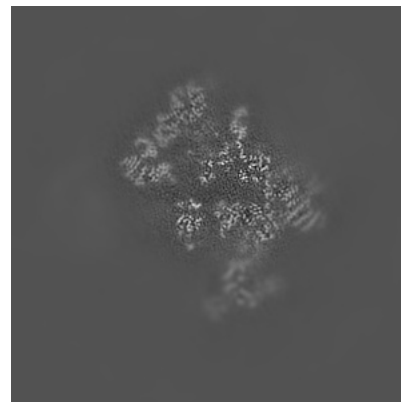
6.2.1 Primary map



X Index: 240



Y Index: 240

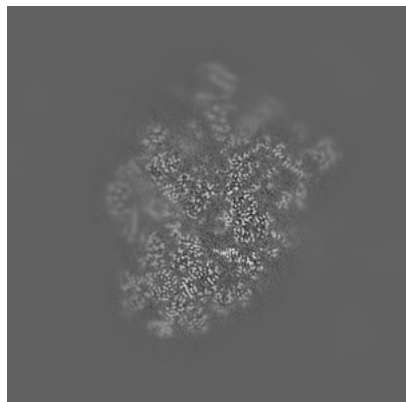


Z Index: 240

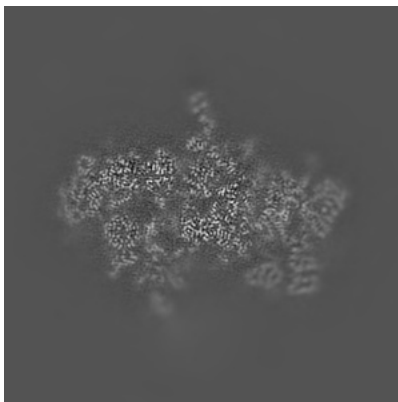
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

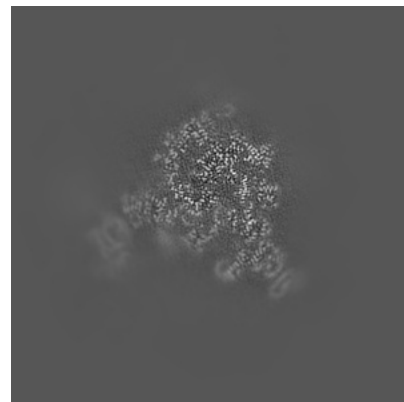
6.3.1 Primary map



X Index: 281



Y Index: 221

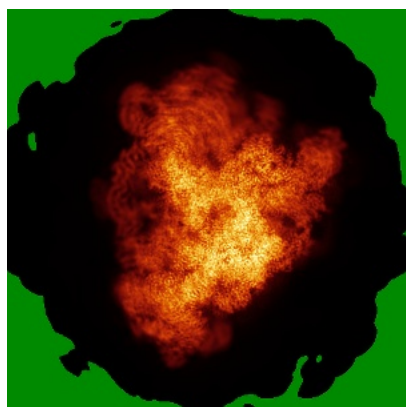


Z Index: 183

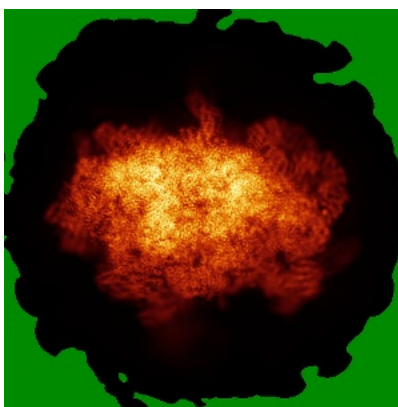
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

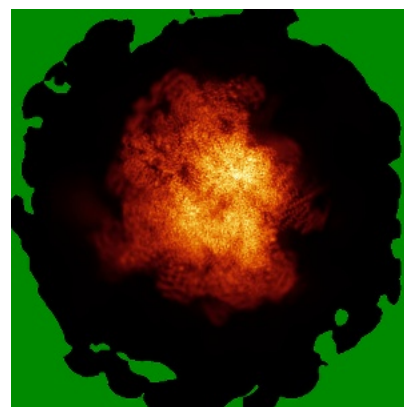
6.4.1 Primary map



X



Y

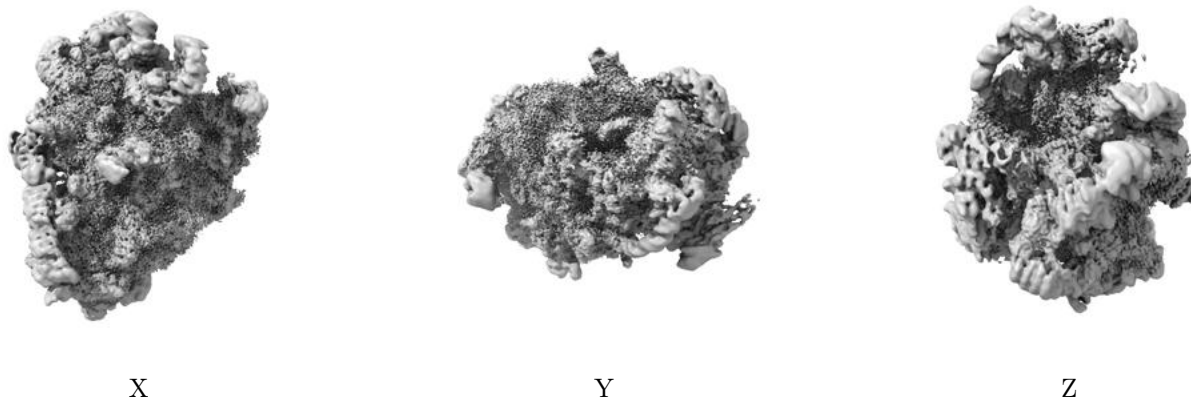


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.01. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

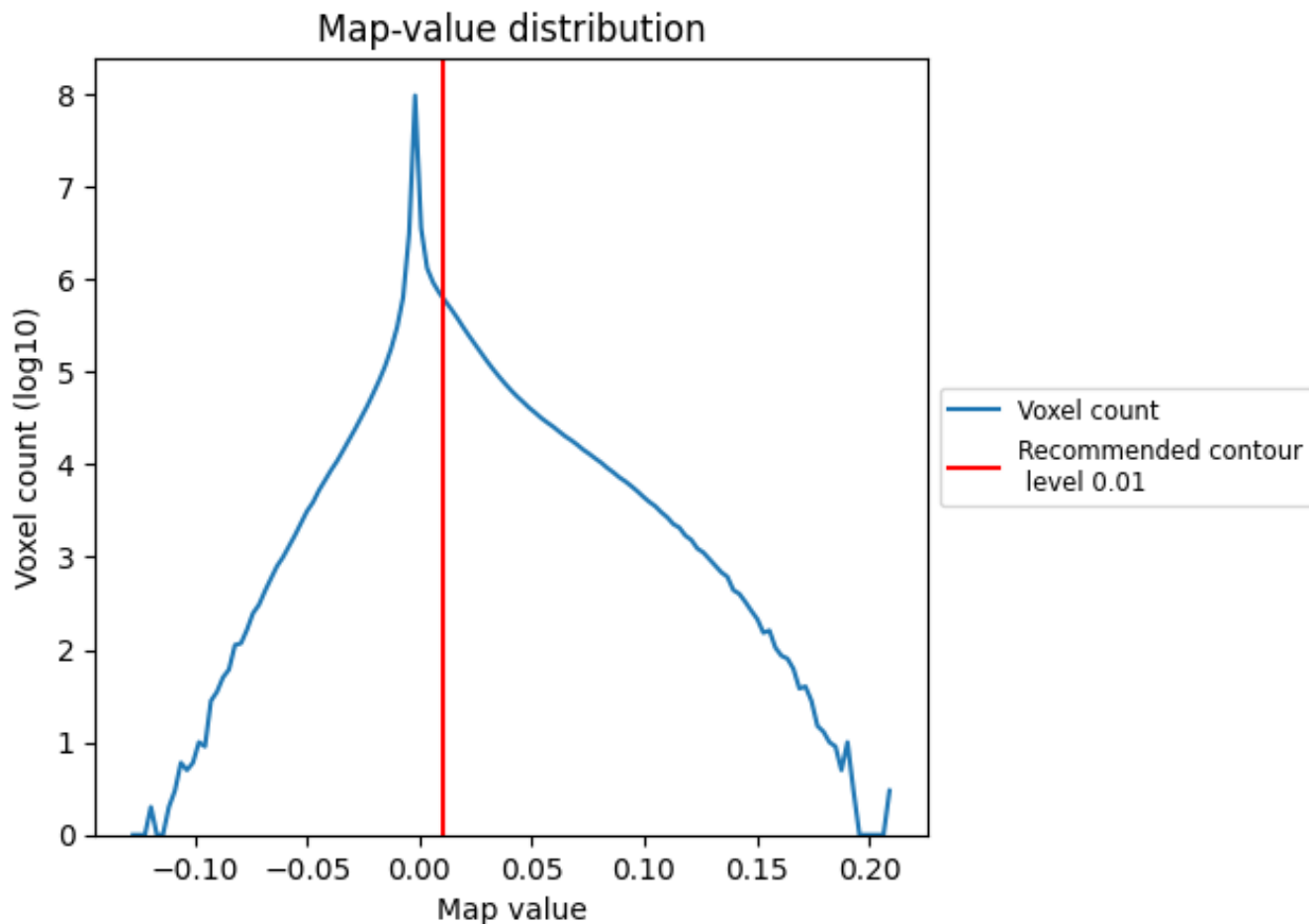
6.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

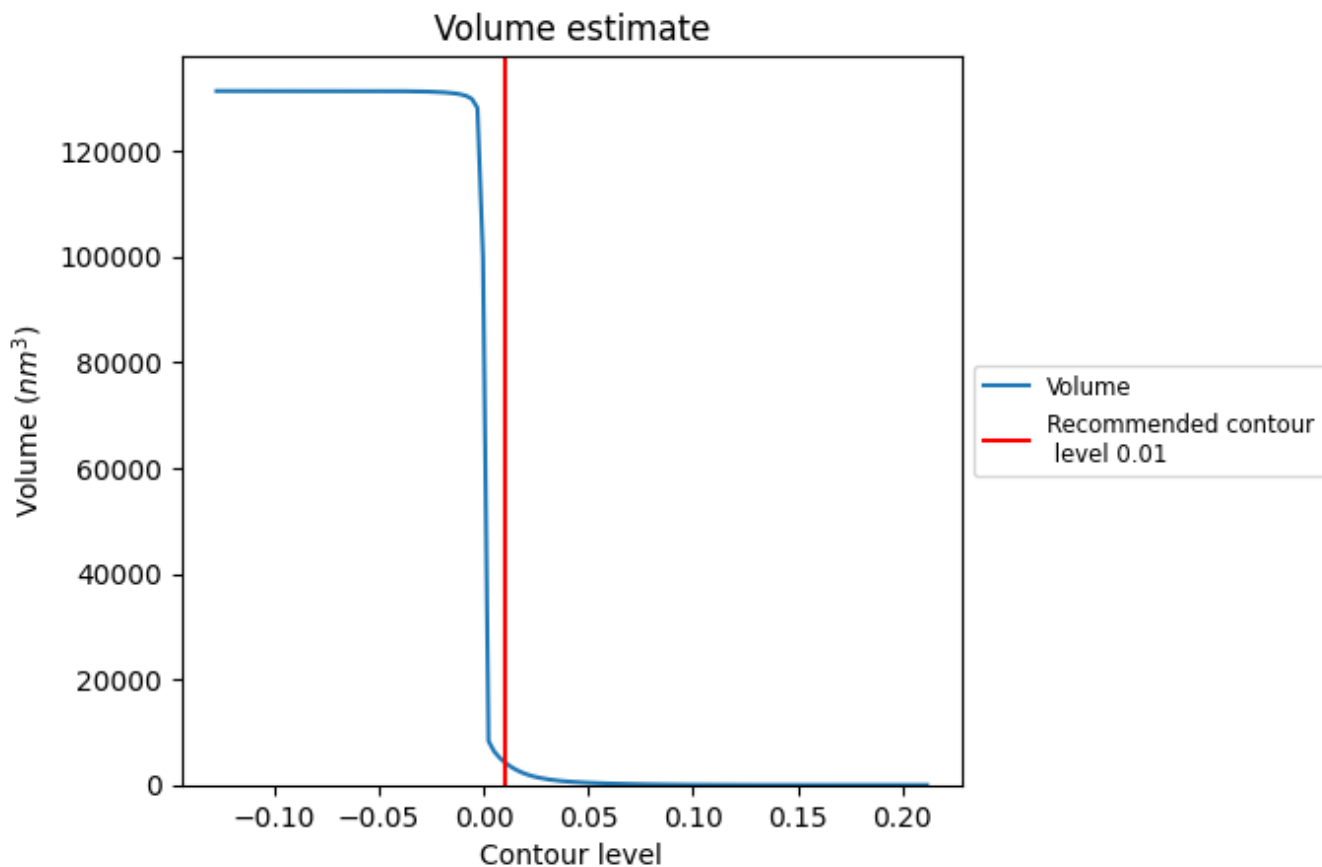
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

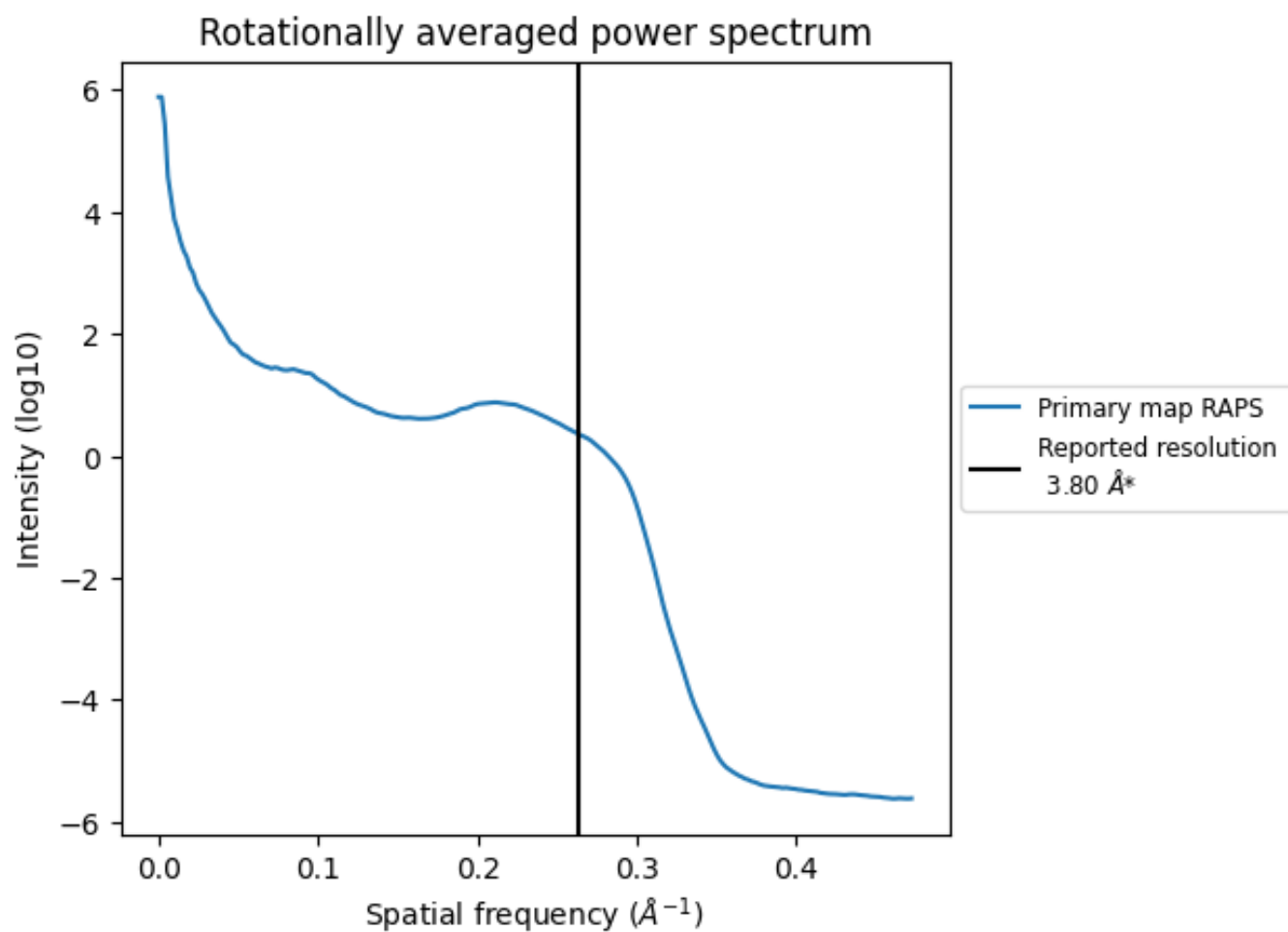
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 4324 nm^3 ; this corresponds to an approximate mass of 3906 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum [i](#)

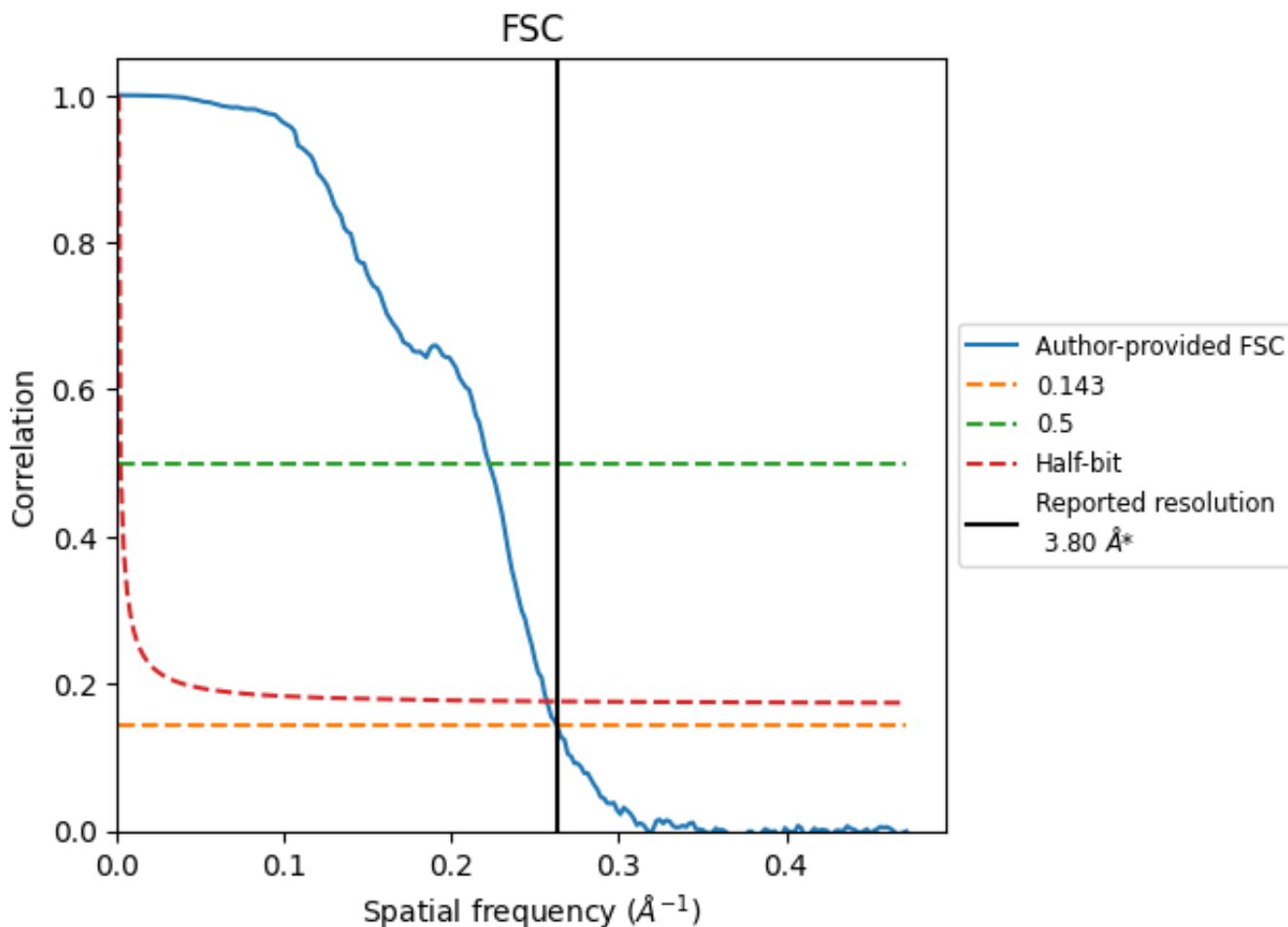


*Reported resolution corresponds to spatial frequency of 0.263 Å⁻¹

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.263 Å⁻¹

8.2 Resolution estimates [i](#)

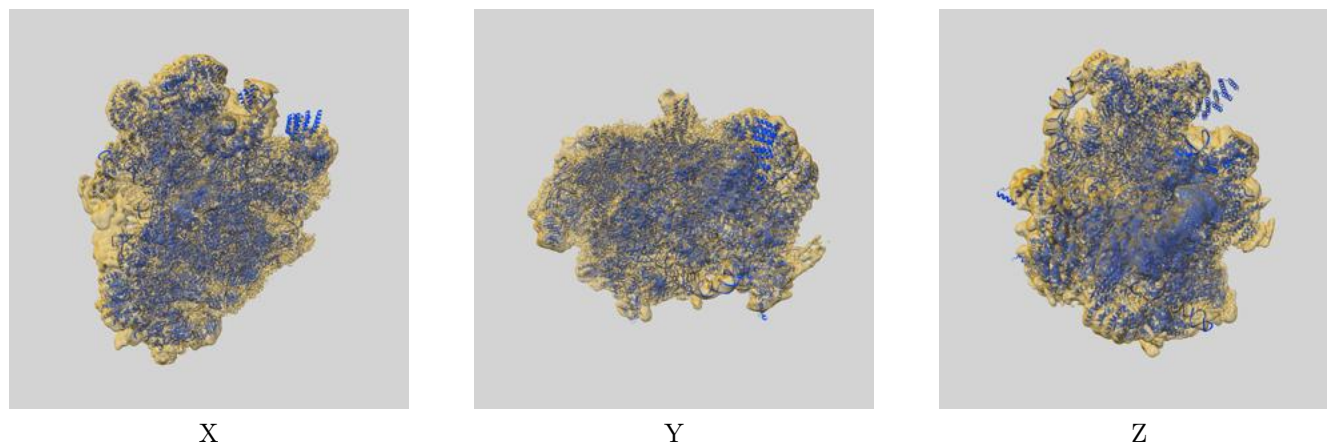
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.80	-	-
Author-provided FSC curve	3.80	4.49	3.89
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

9 Map-model fit [i](#)

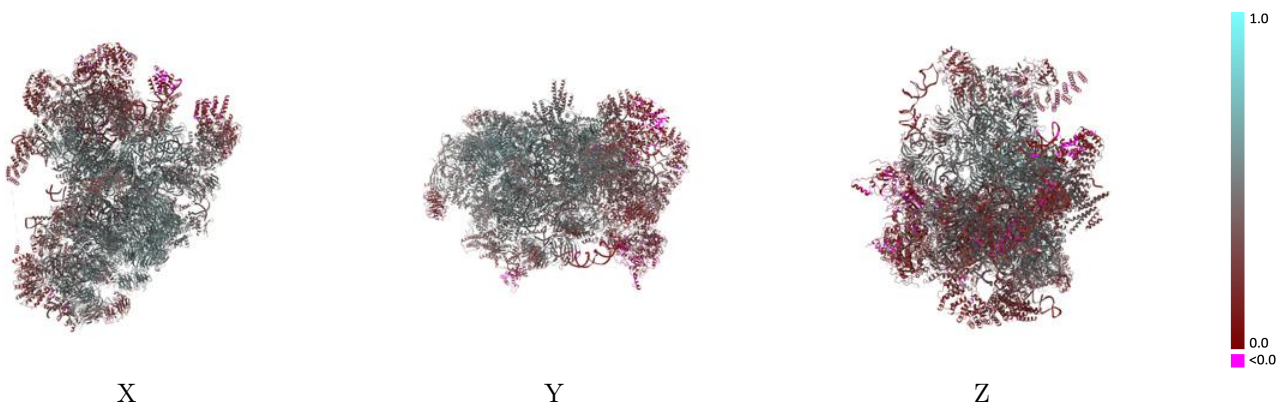
This section contains information regarding the fit between EMDB map EMD-11359 and PDB model 6ZQC. Per-residue inclusion information can be found in section 3 on page 17.

9.1 Map-model overlay [i](#)



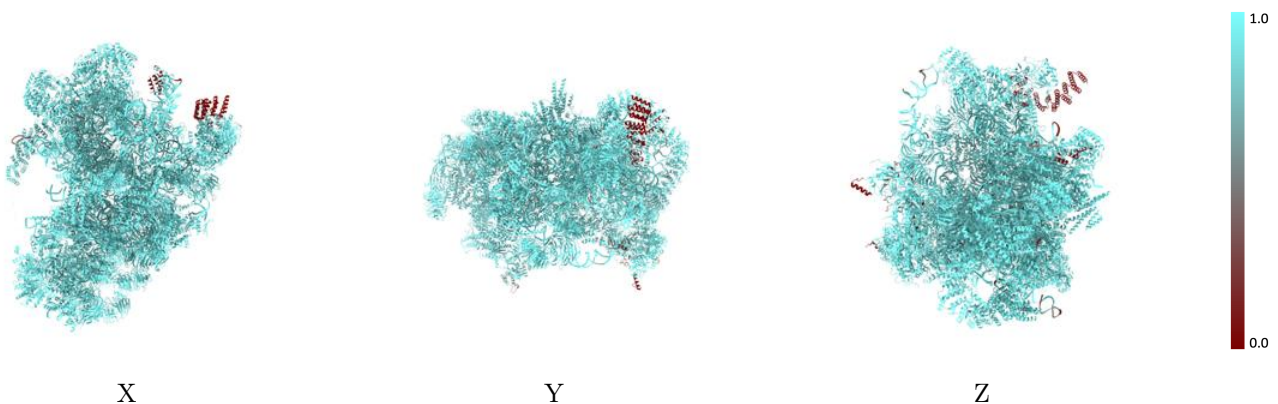
The images above show the 3D surface view of the map at the recommended contour level 0.01 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



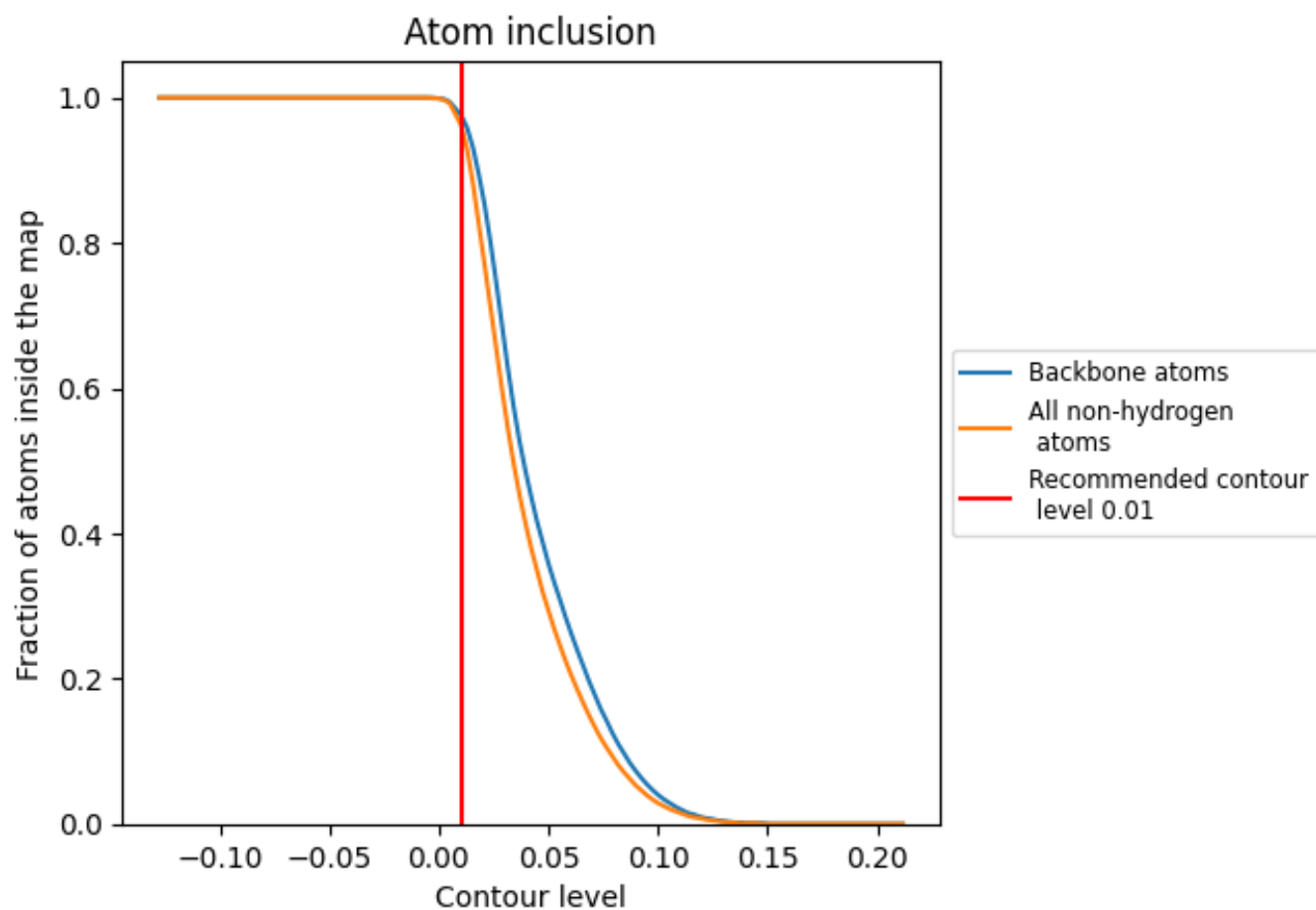
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.01).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 98% of all backbone atoms, 96% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary











































































The table lists the average atom inclusion at the recommended contour level (0.01) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9630	 0.4100
CA	 0.9800	 0.5280
CB	 0.9720	 0.4530
CD	 0.9790	 0.4550
CE	 0.9690	 0.4250
CF	 0.9880	 0.5300
CG	 0.9790	 0.5190
CH	 0.9840	 0.4790
CI	 0.9790	 0.5590
CJ	 0.9760	 0.5240
CK	 0.9690	 0.4920
CL	 0.9790	 0.4900
CM	 0.9750	 0.4690
CN	 0.9520	 0.3260
D2	 0.9820	 0.4330
D3	 0.9730	 0.3830
D4	 0.9420	 0.4140
DA	 0.9650	 0.4940
DE	 0.9680	 0.4160
DF	 0.9790	 0.5210
DG	 0.9450	 0.3320
DH	 0.9390	 0.3600
DI	 0.9620	 0.2980
DJ	 0.9740	 0.5200
DL	 0.9570	 0.3380
DN	 0.9680	 0.4820
DO	 0.9790	 0.5000
DQ	 0.9730	 0.5490
DS	 0.9380	 0.3330
DW	 0.9750	 0.5320
DX	 0.9760	 0.5200
DY	 0.9860	 0.5030
Db	 0.9870	 0.5290
Dc	 0.9810	 0.5220
JA	 0.9270	 0.2550



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Chain	Atom inclusion	Q-score
JB	 0.8650	 0.1600
JC	 0.9410	 0.2480
JF	 0.9660	 0.3720
JG	 0.9690	 0.4620
JH	 0.8600	 0.1180
JI	 0.2280	 0.1810
JJ	 0.9770	 0.4310
JK	 0.9420	 0.2260
JM	 0.9640	 0.4550
JN	 0.9710	 0.5090
JO	 0.9730	 0.4970
JP	 0.9820	 0.5460
JQ	 0.9840	 0.4020
UA	 0.9860	 0.5560
UB	 0.9650	 0.3190
UC	 0.9730	 0.4750
UD	 0.9800	 0.4500
UE	 0.9810	 0.4820
UF	 0.9750	 0.4240
UG	 0.9840	 0.5410
UH	 0.9800	 0.2630
UI	 0.9670	 0.3210
UJ	 0.9570	 0.3340
UK	 0.9790	 0.4920
UL	 0.9770	 0.4350
UM	 0.9700	 0.4210
UN	 0.9550	 0.4720
UO	 0.9810	 0.4900
UP	 0.9630	 0.4240
UQ	 0.9830	 0.4610
UR	 0.9810	 0.5350
US	 0.9710	 0.3450
UT	 0.9490	 0.2540
UU	 0.9870	 0.5400
UV	 0.9690	 0.3510
UX	 0.9820	 0.5500
UZ	 0.9780	 0.4170